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Transportation Institutional Bottlenecks and Barriers to U.S. Exports

The Port Experience

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Transportation Institutional Bottlenecks and Barriers to U.S. Exports

The Port Experience

Interim Report
February 1984

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EXECUTIVE SUMMARY

Traditionally a successful exporter, the nation now has a complex trade problem. The 1983 trade deficit was $69.3 billion and may reach $100 billion in 1984. When related to employment, the imbalance eliminated 1.5 million jobs in 1983.

To help call attention to the situation, the President's 1983 State of the Union Message addressed the interrelationship of international trade, exports and jobs. His interest has stimulated public discussion of the dilemma.

According to many observers, several possible reasons may account for the change in our trade balances: general productivity of the economy, basic competitiveness in world trade, need for "reindustrialization" and high value of the dollar. Our transport system may also be adding to the difficulty of exporting. It may not be operating in the most economic, efficient and effective way for exports.

The purpose of this study is to focus on the domestic transport component of the export process. American transportation modal systems (highway, rail, pipeline and water) play an important individual and collective role in the export transportation process. They, as industries, are in positions of both leadership and support for export transportation. By leadership, they are attempting to take an active role in encouraging exports and presenting workable packages. The support role has been always a function of their activities; mainly within the normal domestic transport operation with no special attention necessarily upon the export process. A key leadership role here has been displayed by the American port industry in identifying opportunities, bringing foreign and domestic participants together, assembling packages, arranging financing, and implementing projects to make large scale export activities possible. For the most part this is a new and significant role for the port industry and is now being expanded by the larger domestic transport companies.

Aside from the immediate urgency of the growing trade imbalance and the impact of declining exports upon employment, there is the long-term situation that can have potentially large implications. The United States is in an excellent position or will be by the year 2000 to provide much of what the world needs for basic life support, raw resources, commodities, goods and services. The more likely candidates include coal and agricultural products such as grain. Cargo carried by container freight rather than break bulk will be increasing as well, according to many studies. There is concern that by the year 2000, as the demand for our output increases, the transportation system may be at points of maximum operation and thus require significantly expanded or new facilities and services. Should this be the case, they may well encounter the intergovernmental public policy system. Whatever is necessary operationally to change

or build will in many locations come into contact with the federal, state and local laws, rules, regulations and policies governing domestic activities. This intergovernmental policy framework might offer some impediments or bottlenecks, which could become absolute stoppages or barriers to the export transport process in key ways.

To consider these questions, this study reviewed long-term public policy implications of the intergovernmental policy framework for export transportation. It examined the general export transportation process, American port facilities, role of ports and trade, intergovernmental policy framework, deregulation and selected port experiences.

Research methodology employed extensive literature search of a vast body of information, collection of material by mail and phone requests, and field interviews and case studies. The work was guided by an advisory committee composed of representatives from the U.S. Advisory Commission on Intergovernmental Relations, Department of Transportation, American Association of Port Authorities, National Council of Physical Distribution Managers, Ports of Long Beach and Los Angeles, Southern California Association of Governments, Los Angeles County Transportation Commission, Southern Pacific Railroad and Security Pacific Bank. Products included a "Workshop on Exports, Transportation and Private/Public Cooperation."

The existing American intergovernmental public policy system was developed on a piecemeal basis without real consideration of transportation, exports or ports. Such incremental evolution resulted in a rich mosaic of structures, practices, traditions and experiences, often enunciated in the form of public policy laws, rules and regulations. In the same regard, governmental levels have different interests and purposes for their own public policy. Transportation - related intergovernmental policy of general concern and sometimes a specific difficulty include the environmental area (air, water, wildlife, dredging, dredging waste, noise), highway vehicle weight and size limitations, permits and licensing, state utility commission permitting and licensing, coastal zone controls, local,regional, county and city land use and zoning controls, safety and hazardous cargo policies, tax policies for international business, motor carrier and railroad deregulation, and questions of eminent domain as in new transport technology development and implementation (slurry pipelines).

The current economic resurgence should provide incentive to plan ahead and decide some key strategy issues. Although export transportation problems are not yet at the intensity experienced in 1979-80, they may recur for coal or grain transport. The American economy has undergone severe stress and is faced with increasing strong foreign competition. At the same time heavy industry is experiencing "reindustrialization", causing uncertainty about what it will produce and export. The "smokestack" areas of the nation, the Northeast and Midwest, have lower export volume. To the extent these areas no longer produce export cargo, their supporting transportation and port infrastructure will be impacted.

This is something to consider for long-term strategy policy planning at the highest levels as the nation readjusts itself internally. All infrastructure location and investments may be affected by these shifts. On the other hand, such stress external to the port industry provides new opportunities and some pitfalls regarding actual cargo carried, routing and the governmental regulation process. For the time being lower levels of activity compared to the 1970's provide an opportunity to address the future and plan for it more thoroughly, anticipating what might occur and how to prepare for it. An illustration may be in the case of increasing agricultural and coal exports. If new facilities are desirable (or certainly expanded services), programs could be arranged now, designed,publicly discussed, reviewed and approved for all permitting and licensing. They could then be ready to go as the operations pick up again. Some port officials though fear, that even if this were the case, political affairs in local areas may switch and reverse prior approvals.

For the American transport system to be as supportive as possible for the export process, certain strategic policy issues need to be addressed in the coming years. Management of the port facilities, the role of labor, the introduction of new technology both on and off shore, costing and productivity must all be monitored carefully and coordinated. If volume attains such high levels, it may be more prudent to shift cargo to less densely populated urban areas or rural coastal locations, where smaller but specialized facilities can be constructed. Should this happen, it would be a major relocation of port facilities outside our urban areas. There are indications that some ports might consider joint activities to develop facilities in less congested rural locations. Two factors in this rearrangement are the cost of renovating and improving existing facilities, and incentive provided by large railroad company operations with more flexible export cargo routing and costing. At the same time ports are facing considerable financial stress. Compared to general service local and state governments, they appear to be making a lot of money. Even though they need to preserve and protect their earnings for capital development and operations, financially hard-pressed units of government see them as potential candidates for borrowing of funds or outright sharing of earnings. In effect, politicalization of port activities is a serious concern.

It is possible that ports may become in some cases more like transportation company conglomerates, who would view the port operation as a profit center and invest earnings for greatest return. If this did happen, then we might start seeing some ports in dense urban areas slowly but surely leaving the port business and transferring into other money making operations. Existing urban port land could then be converted to higher value utilization for residential development on the waterfront, commerical and entertainment complexes.

Lastly, the intergovernmental policy system has great capability to cause consternation and difficulty. Its very complexity, number of actors and levels, cross-cutting horizontal and vertical relationships, all may add up to a morass hindering speedy response by ports to increasing export needs. On the other

hand, the system is designed for non-export transportation purposes. It serves general urban life goals and objectives. Thus the system may be indirectly telling the port industry that, at some point, port activity is no longer as valued an economic activity for its regional areas. It will be allowed to reach full, existing capacity incrementally; not allowing major new facility operations and cargo flows through dense urban areas. If that occurs, such indirect sequencing is a result of free marketplace calculations about cost and transport activities. In the long-term cargo flows would be redirected to more rural locations where, theoretically, transport operation is easier to conduct. Whether present or future activities the intergovernmental policy framework has potential to say "No" in a non-coordinated way, but little capability to say "Yes" in a coordinated way. This crucial distinction is important to keep in mind and must be dealt with. If coal is significantly expanded, then any of the communities in many states along the way can reject development of coal transport activities through existing railroad (or other modes) rights-of-way. Just the example of the street crossing situation may be enough for local governments to suggest politely the national interest would be served better elsewhere.

CONCLUSION

The export transportation system is an important, but still subsidiary, component of the domestic transportation framework. Deregulation has added competitive vigor to the whole system. As the federal government reduces regulatory activity, private and public roles and relationships begin to adjust, data collection functions are eliminated, coordinated is less evident, and policy vacuums are created. Long-term transportation system considerations are guided more by immediate and near-term marketplace forces.

Before deregulation, no part of government clearly addressed how the complex intergovernmental policy system affected the export transportation function. Now, more than ever, it is necessary to encourage public attention and discussion on this matter. An excellent opportunity is presented for private and public institutions at the national, state, regional and local levels to assume this role individually or cooperatively, while the system is relatively "unstressed" and prior to a crisis-response cycle of problem and solution.

What function might best help to encourage more public attention and discussion of a subject that has no organized support group and constituency, yet affects so much of the national economy, employment, corporate and government revenues, and quality of life?

There may be three levels of basic activities:

Level I - Informational Communication Activities:

1. data collection
2. discussion and briefing sessions
3. conferences
4. training

5. educational programs for technical groups, private and public decision makers, citizens

Level II- Advocacy Communication Activities:

1. position statements
2. lobbying
3. service on advisory committees
4. public statements and media messages
5. press releases

Level III-Decision Making Powers:

1. program and/or office funding
2. program and/or office staffing
3. program regulations, policies, rules, procedures
4. voluntary agreements and programs by concerned parties
5. collective agreements by concerned parties
6. legislative power from Congress, state or county/city jurisdictions
7. identification of transportation corridors for export (e.g., as with Dept of Defense strategic rail corridors, or Surface Transportation Assistance Act of 1982 requirement to identify special large truck Interstate routes).

A variety of private organizations could accomplish these candidate functions. In the private sector, it could be accomplished by local chambers of commerce, trade associations, industrial groupings export associations, cooperation with nonprofit research and University groups. At the regional, state and national levels, similar types of organizational mechanisms may be established for increasing awareness and discussion of export transportation.

In the public sector, starting with local government, a somewhat similar network potentially exists among the governments at the city county, special districts, and regional levels. For example, some areas of the county have active "district export councils" based on the U.S. Department of Commerce's trade program forums. At the state and federal levels, similar office functions exists and may become useful in these activities.

This "smorgasbord" approach in identifying candidate levels of activity and implementing organizations is designed to be "menu-driven." By this, it is meant that all of these are potential, voluntary activities. They may be accomplished by marketplace, private sector forces as need occurs. Depending upon the intensity of the export transportation problem, a mixture of the approaches could be considered for longer-term situations. For example, if the backup of export transportation cargo occurs in the rail or highway system in key points of the country, local areas could try to organize and handle the response themselves. In fact, this did occur and did not require a strong state and federal involvement, except in monitoring. In the case of Hampton Roads and coal export, the downturn in the economy also contributed to the lessening of the severity of the situation. In another example, the Port of Seattle

has been active in helping to consolidate export shipments to secure lower "through rates" for shippers or manufacturers exporting. In Southern California, regional government in cooperation with many local public and private agencies, including the ports, began to identify freight corridors for export transportation in the rail system. These illustrate local voluntary action and how these levels may come into play.

If things become far more intense and voluntary local private and public cooperation did not respond adequately, then a stronger governmental role should be considered and initiated after a sufficient period for a natural local solution to develop.

Reviewing the current export transportation situation and the local, state and national activities and policies, the question arises --- "who is minding the store?" Perhaps the store does not need "minding", however in an extremely competitive world of international economic turbulence, every little advantage yielded by our transportation system to facilitate exports can only help the nation's economic healthiness and position in trade. Even minimal positive coordination of such matters is better than no coordination. It appears now that we have none to minimal coordination, yet in the late 1970's and early 1980's, there was an intense export boom almost demanding it. When export pressure grows again to maximize the system, for the long term, we may well wish for more advance planning and coordination by the private and public sectors.

What must be decided by the marketplace and the intergovernmental policy system is, <u>what priorities shall exports have for our nation's economy?</u> And in support of that goal, <u>what priorities should the export transportation system have to make our exports as competitive as possible?</u> These types of policy issues and questions must be discussed and resolved. This research study sees a growing need for some kind of coordination to be encouraged and accomplished. Whether it is a result of free market forces alone or with governmental encouragement is not of particular concern. In either case, the results hopefully will be the same, and effective support would occur. The visibility of centralized functions and informational campaigns, statutory and program coordination and implementation will facilitate a useful statement of the broad game rules for export transportation priority. Such steps as the Export Trading Company Act and discussion of dredging legislation are a good beginning to redirect attention and to develop integrated policy and programs.

The intergovernmental policy of the nation as it stands now is <u>not</u> to treat export transportation as a total policy package. Intergovernmental freedom and independence will, in all probability, be scrutinized more and more if the balance of trade deficit continued to grow. A clear decision between local and national interest might have to be made. A potentially useful approach to initiate discussion is establishment of a policy agenda to consider future export transportation strategy options and decisions.

ACKNOWLEDGMENTS

During the 1982-1983 period, the nation's economy was experiencing some turbulence. As a result, exports decreased, transportation volume declined and for the moment, pressure was off the export transportation system. Port, transportation and governmental managers were uncertain as to how things were developing in the short term. Nevertheless, these pragmatic and realistic senior officials believed that the country should and will focus more upon exports, transportation and the intergovernmental public policy system to help prepare for long-term export growth potential. To facilitate this, high-level policy visibility and support are necessary.

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General management of the project was the responsibility of Peter L. Shaw. The final report chapters were prepared by: I (Shaw); II (Shaw); III (Tilley and Shaw); IV (Shaw); V (Shaw); VI (Leonard and Shaw). Professors Linda Brandt and John Matzer provided sound perspective and research assistance.

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Chapter I

INTRODUCTION

The American economy is more and more a part of the world economy. The interdependence is growing in importance and in public visibility. And many governmental policies are designed to support free trade and facilitate the positive nature of that interaction.

Unfortunately, many aspects of the American intergovernmental public policy institutional system are not so supportive of international trade, particularly the export of American output. Most of the federal, state, and local laws, rules, regulations and policies were developed with other purposes in mind. They responded to perceived domestic needs for a specific problem or situation in defined jurisdictions and functions. Often, they were developed on a piecemeal and incremental basis.

A key domestic governmental function is the support of transportation. For export of American output, the domestic transportation system should ideally operate economically and efficiently. Problems of transporting goods and commodities from the point-of-origin to a seaport should be minimized by the role of government, not unintentionally exacerbated. There is reason to believe that the intergovernmental system has offered some key bottlenecks (impediments) and barriers (obstructions). The export transportation system must operate with the very same complex, fragmented institutional policy framework formed by the intergovernmental system.

American seaports have been widely recognized as the pivotal point in the land-sea export process. To the transportation company executive, the manufacturer or farmer, the governmental policy-maker, ports are a natural place to consider when thinking about exports and transportation. In some situations, they may be too visible. They are indirectly encouraged to take leadership positions to develop trade, line up financing, and long-term contracts, assemble the best domestic transportation packages, and steady suppliers. From their successes, benefits accrue to the nation's economy, producers, and citizens. Jobs are created or enhanced through the multiplier effect. But, on the other hand, the ports may take a lot of "heat" by being aggressive and visible in behalf of improving exports. Their return on organizational and financial capital invested may be revenue earned as port landlords, owners, or operators of the facilities through which cargo moves. That revenue does help their parent jurisdictions and local economies. Overall though, the ports have voluntarily assumed the leadership role.

The President in the State of the Union address noted:[1]

> One out of every five jobs in our country depends on trade. So, I will propose a broader strategy in the field of international trade--one that increases the openess of our trading system and is fairer to America's farmers and workers in the world marketplace. We must have adequate export financing to sell American products overseas.
>
> I will ask for new negotiating authority to remove barriers and get more of our products into foreign markets. We must strengthen the organization of our trade agencies and make changes in our domestic laws and international trade policy to promote free trade and the increased flow of American goods, services, and investments.
>
> Our trade position can also be improved by making our port system more efficient. Better, more active harbors translate into stable jobs in our coal fields, railroads, trucking industry and ports. After two years of debate, it's time for us to get together and enact a port modernization bill.
>
> Education, training, and retraining are fundamental to our success, as are resaerch,development and productivity. Labor, management, and government at all levels can and must participate in improving these tools of growth. Tax policy, regulatory practices and government programs all need constant reevaluation in terms of our competitiveness. Every American has a role, and a stake, in international trade. (emphasis added)

Addressing the importance of the nation's balance of trade position, Martin Feldstein, Chairman, Council of Economic Advisors stated: [2]

> The position of the United States as an exporter and importer of goods in the world economy is now undergoing a dramatic change. For a quarter of a century after the Second World War, the United States exported more goods each year to the rest of

---

[1]President Ronald Reagan, "State of the Union Address Text," Los Angeles Times (January 26, 1983), part I, p. A.

[2]Martin Feldstein, "Our Exploding Trade Deficit," National Journal (March 12, 1983), p. 588.

> the world than we imported from other countries. Many experts now forecast that the trade deficit for 1983 will rise to the unprecedented level of $75 billion, about twice last year's level; and three times the level of 1981;. A trade deficit of $75 billion would represent some 2.5 percent of total GNP.

In support of the President, implementing policy, according to Ambassador William E. Brock, U.S. Trade Representative, is:[3]

> Domestically, our challenge will be to fashion economic policies that will generate sufficient growth to allow the nation's economy to adjust to rapidly changing technological and competitive conditions. As economic recovery accelerates, American industries will emerge more efficiently and better able to compete.
>
> Tax policy, regulatory practices, and governmental programs will be regularly evaluated in terms of our competitive opportunities. (emphasis added)

Although the domestic export transportation system is not the primary cause of the nation's trade imbalance, it may be a contributing cost factor for its product competitiveness. It is very difficult to separate transportation costing, especially that element attributed to governmental laws, regulations and policies.

The American public appreciates the country's international trade situation and understands its importance. Recent polls indicate that the public supports free trade and other non-protectionist policy approaches to improve the matter. Eighty-nine percent agreed with the statement: "We must make better products more efficiently to compete in the world, rather than depend on trade barriers such as tariffs."[4] Yet, fifty-five percent favor "increasing taxes on foreign imports to protect American jobs in certain industries."[5] The seeming inconsistency can be explained in the first poll by the question noting a condition that U.S. exporters are treated liberally abroad as a quid pro quo.

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[3]William E. Brock, "U.S. Trade Policy," National Journal (February 19, 1983), p. 409.

[4]"Faith in Free Trade Has Not Waned," Business Week (May 30, 1983), pp. 16.

[5]"A Poll in foreign Trade: America First?" Newsweek (May 30, 1983), p. 28.

Study Purpose

The research study is designed for a three-phase effort in the 1981-1984 period. The primary purpose is to identify critical intergovernmental transportation bottlenecks and barriers to the efficient operation of the export process. The first year of study examined the demand for U.S. exports, the intergovernmental transportation policy system, and how it interacts for the transportation of coal, grain, and containers to the Port of Long Beach and Port of Los Angeles. This current phase reviews the changes in the intergovernmental transportation system, the impacts of deregulation, the direct experience of the ports of Baltimore, Hampton Roads (Norfolk-Newport News), New Orleans and Seattle. The final phase of the study will stress the key strategic policy issues for the federal government and the transportation industry.

Research Questions

The underlying concept, the interface between intergovernmental policy framework and transportation of goods and commodities for export, requires that several broad questions be identified. These relate to the "flow" sequence from point-of-origin in a port's "hinterland" or service zone to the port, onto the ships, and past the coastal limit.

For example, what federal, state, and local laws, regulations, rules and policies govern directly (or to an important indirect degree) and relate to these components of the transportation export process:

1. point-of-origin
   - preparation of goods and commodities for shipment
   - loading process, facilities, labor
   - transportation facilities, supply, labor
   - freight forwarders, brokers
   - capability for new demand
   - capital requirements

2. transportation (origin to port)
   - mode (truck, rail, pipeline, barge)
   - operational process (facilities, equipment, labor)
   - charges
   - maintenance
   - capability for new demand
   - capital requirements

3. port complex
   - access to port
   - transfer equipment, operation (unloading and loading) and labor
   - storage facilities, space, operations, labor
   - ship berthing and departure
   - ship harbor traffic (internal moorage, movement)
   - capability for new development
   - capital requirements

Another set of research questions relates to the laws, regulations, rules and policies. How does one determine if a governmental law is good or bad? What criteria exist to help shed some light on such matters? Unfortunately, the field of public policy offers no clear cut way. So much depends upon the original need for the law, the groups and individuals to benefit or disbenefit, the implementation of thelaw, and subsequent operation over time. Recognizing the delicate ground here, this study attempts to lay out the various perspectives and interpretations explicit and implicit in a particular situation.

So, such questions as the following will be raised whenever appropriate: 1. transport law contact: what brings laws into play; what statutory requirement exists; what standard serves as trigger mechanism to initiate; process; what time periods are involved; 2. administrative law criteria; who benefits/disbenefits; burden; equity; fairness; efficiency; effectiveness; financial cost; even-handedness in interpretation and application; uniformity; consistency; 3. policy incentives and disincentives; regulatory license and operations; subsidy; rate of return on investment; taxes.

Research Methodology

To explore these questions, research approaches utilized several techniques.

1. Literature Review. The vast body of literature has been reviewed for information about the technical elements of the transportation process and the variety of federal, state, and local laws that might apply. Especially useful resources include the Maritime Research Board and Transportation Research Board Bibliographies, the Index to Legal Periodicals, and American Association of Port Authorities materials.

2. Advisory Committee. General input and valuable assistance have come from the Research Advisory Committee, composed of representatives of the Port of Long Beach, Port of Los Angeles, Southern California Association of Governments, Los Angeles County Transportation Commission, Ports Transportation Task Force, Southern Pacific Transportation Company, Security Pacific National Bank, U.S. Department of Transportation, and U.S. Congress Surface Transportation Committee, American Association of Port Authorities, National Council of Physical Distribution Managers, and the Advisory Commission on Intergovernmental Relations.

3. Interviews/Meetings/Information Gathering. Numerous interviews were conducted with local, state, and federal officials, representatives of trade associations, corporate managers for the railroads, trucking, terminal and commodity organizations. General information about all ports in the nation has been collected directly from them, along with trade association materials about the goods and commodities for export.

Local, state, and federal officials and corporate managers have been contacted by mail and phone to elicit their informal thoughts about the export-transportation intergovernmental policy contacts.

4. Case Study. Much of the subject matter is abstract and conceptual until fleshed out with the realities of actually transporting export goods and commodities. For the ports of Baltimore, New Orleans, Hampton Roads and Seattle, case studies examine their individual experience. Each port was chosen to represent a mixture of geography, cargo, size, and operations.

Interim Report Format

The following chapters address current and future operations of the port industry. Chapter II discusses the current structure and operation of the port industry. Chapter III presents data about export demand for American goods and commodities for the near future, discusses long-term (year 2000) possibilities and the variety of factors and hazards in accurately predicting export items and levels. Chapter IV discusses the intergovernmental policy framework in general and specific transportation components, and how they relate to the export-transportation operation. Chapter V reviews the status and impacts of deregulation and transportation costs. Chapter VI presents case studies on Baltimore, Hampton Roads (Norfolk-Newport News), New Orleans, and Seattle. The material is based upon extensive working papers for each port.

Chapter II

U.S. PORT FACILITIES

Introduction

The American port industry is undergoing rapid change. In a sense, it acts as a lightning rod for much of the world and American economy. It also is quite sensitive to how economic forces are translated into specific public policy at the national, regional, state and local levels of government.

As the lead transportation institutional and point-of-contact for responding to trade needs, the port industry is particularly dependent upon acute immediate, political and economic, urban and environmental constraints. Often, ports for their own survival are forced to anticipate long range demands and need with very fast short-term responses and implementation schemes. Due to the crisis nature of much of the governmental response, ports too are forced to respond in this mode, (e.g. coal export terminal expension plans). But many projects slowed down. The cumbersome process was, by accident, healthy because it prevented many ports from investing in capital intensive plans and projects. Most were able to put them "on hold" before losing their initial investment due to economic slowdown and disappearance of the coal market. This illustrates the whipsawing effect of the short and long-term forces.

In any case, more and more observers are recognizing the importance of ports and what they have done and may do for the nation. Citizens, industries, and public officials in maritime areas have long recognized the relationship and their governments have on the whole been supportive. The national government has recognized furthermore the importance and value of ports, but has trouble demonstrating it in a coherent statutory and programmatic agenda. Whether it be dredging or merchant marine, coastal preservation or coal terminal development, increased productivity through technological application (containers) or longshoremen job preservation and protection, the contrasts continue in many ways. However this simply illustrates further the implicit contradictions of public policies that are placed upon the export transportation system and how they become most visible for ports.

Aside from recent presidential proclamations for National Transportation Week, the President has further stated that export is critical. In his State of the Union message, January 25, 1983, he stated that one out of five jobs in the country is tied to export. Furthermore he mentioned the intent to propose a coordinated foreign trade policy.

In recent years more attention has been given to the multifaceted port industry. These include studies for the U.S. Department of Transportation, independent researchers and Phase I of this study on Transportation Institutional Bottlenecks and

Barriers to U.S. Exports--The Port Experience. The following information summarizes some of these issues and the status of the port industry. The discussion descriptively positions ports in the export transportation system.

Port Facilities

The American port industry is diverse. There are many different components and organizational form. Its relationships with public and private agencies vary too. A summary report from the U. S. Department of Transportation noted the following[1] (Table II-1,2):

1. There are 189 commercial seaports on all coasts (including Great Lakes);
2. These deep draft ports require only two percent or 1650 miles of coast;
3. There are 2939 deep draft berths for ocean going vessels including 1448 for general cargo, 778 for dry bulk and 713 for liquid bulk;
4. There are approximately 25,000 miles of commercially-navigable inland waterways, of which the Mississipi System accounts for 16,000 miles along with the Gulf, intracoastal, Alabama River, and Columbia/Snake River systems.

The inland systems, furthermore, have over 1894 barge facilities in 95 major riverports.

These ports have a tremendous influence upon the national economy. In 1980 they generated the following activity:

1. Handled over 2 billion short tons of trade.
2. Added $5.5 billion from custom fees to the treasury.
3. Contributed over $35 billion to the gross national product.
4. And added over $1.5 billion to the balance of payment accounts.
5. Generated $66 billion in direct and indirect dollars income from gross sales and services to its users.
6. Provided directly and indirectly 1 million jobs generating $23 billion in personal income.
7. Generated federal income taxes of $10 billion and state and local taxes of $5 billion.
8. Invested over $5 billion from 1946 to 1980 in capital facilities and anticipated from 1990 an additional $5 billion.

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[1]U.S. Department of Transportation, Maritime Administration, A Report to the Congress on the Status of the Public Ports of the United States (Washington, D.C.: U.S. Government Printing Office, August 1982), pp. 3-10.

Table II-1

U.S. Seaport Terminal Facilities by Region

Region 2/	Number of Ports	Total Number of Terminals	Number and Type of Berths 1/											Total
			General Cargo Facilities				Bulk Cargo Facilities							
			Conventional	Specialized General Cargo			Dry Bulk				Liquid Bulk			
			Breakbulk	Container	Ro/Ro	Barge Ship	Grain	Coal	Ore	Other	Petrol	LPG/LNG	Other	
North Atlantic	27	285	325	45	14	5	14	21	16	36	144	1	30	651
South Atlantic	24	103	113	11	26	2	1	0	4	24	59	1	15	256
Gulf	30	322	258	13	3	10	32	14	14	34	112	1	67	558
South Pacific	37	240	190	48	12	7	9	6	4	23	115	1	18	433
North Pacific	43	223	200	19	7	1	16	0	13	58	71	1	12	398
Great Lakes	28	283	138	1	0	0	65	86	73	215	39	0	26	643
Total	189	1.456	1,224	137	62	25	137	127	124	390	540	5	168	2,939

1/ Includes vessel berths varying from good to poor condition, and having depths of 20 feet or more in ports on the Atlantic, Gulf, and Pacific coasts, and depths of 18 feet or more in ports of the Great Lakes.

2/ For identifying which states are included in each coastal region, see Appendix B.

Source: Maritime Administration, Port Facility Inventory,

Source: U.S. DOT, Maritime Administration, A Report to Congress on the Status of the Public Ports of the United States (Washington, D.C.: Government Printing Office, August,1982), p.4.

Table II-2

Commercially Navigable Waterways of the United States by Lengths and Depths 1/

Waterway Groups	Lengths in Miles of Waterways					
	Under 6 ft.	6 to 9 ft.	9 to 12 ft.	12 to 14 ft.	14 ft. & Over	Total
Atlantic Coast Waterways	1,426	1,241	584	938	1,581	5,770
Atlantic Intracoastal Waterway-Norfolk, Va. to Key West, Fla.	-	65	65	1,104	-	1,234
Gulf Coast Waterways	2,055	647	1,133	79	378	4,292
Gulf-Intracoastal Waterway-St. Marks, Fla. to the Mexican Border	-	-	-	1,137	-	1,137
Mississippi River System	2,020	969	4,957	740	268	8,954
Pacific Coast Waterways	730	498	237	26	2,084	3,575
Great Lakes	45	89	-	8	348	490
All Other Waterways	76	7	-	1	7	91
Grand Total	6,352	3,516	6,976	4,033	4,666	25,543

1/ The mileages in this table represent the lengths of all navigable channels of the United States, including those improved by the Federal Government, or other agencies, and those which have not been improved but are usable for commercial navigation.

Source: U.S. Army Corps of Engineers

Source: Ibid., p.5.

9. Inland ports anticipated $4.8 billion investment through 1990.

Port Structures

To accomplish these impressive statistics a variety of organizational structures have been developed over the years. For the most part, the type of organization (and its relationship to various levels of intergovernmental operation) depends upon the sector of the country and the age of the port. In the North Atlantic (where jurisdictions are more compact and densely populated) of approaches used include municipal ports, bi-state port authority, state port authorities and departments of transportation. Moving southerly, public corporations and state port authorities seem to become more in use, and along the Gulf Coast the independent navigation district is the predominant pattern as well as in the North Pacific area. The South Pacific is a mixture of municipal ports and independent navigation districts with some state influence. All in all, the predominate form throughout the country is the independent navigation district with shared rankings of autonomous state chartered public corporations and municipal port departments. See the following American Association of Port Authorities description, Table II-3.

Although according to this table states have a more limited role in their establishment and connection to port authorities, statistics suggest something different. The American Association of State Highways and Transportation Officials studied state involvement and found that:[2]

Table II-3

TYPES OF U.S. PORT AUTHORITIES(BY AAPA PORT REGION)

	State Depts. of Transportation	State Port Authorities	Bi-State Port Authorities	Municipal Port Departments	County Port Departments	Independent Navigation Districts	Municipal Port Corporations	Autonomous State-Chartered Public Corporations
NORTH ATLANTIC	2	1	2	3	-	1	1	3
SOUTH ATLANTIC	1	3	-	-	1	1	-	4
GULF	1	-	-	3	1	12	-	3
SOUTH PACIFIC	2	-	-	5	-	6	-	-
NORTH PACIFIC	-	-	-	1	-	13	-	-
GREAT LAKES	-	1	-	2	-	2	-	5
TOTALS	6	5	2	14	2	35	1	15

	Totals
NORTH ATLANTIC	13
SOUTH ATLANTIC	10
GULF	20
SOUTH PACIFIC	13
NORTH PACIFIC	14
GREAT LAKES	10
TOTAL	80

Includes Guam, Puerto Rico and the Virgin Islands

Source: AAPA Advisory (December 6, 1982).

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[2]American Association of State Highway and Transportation Officials, Survey of State Funding of Landsite Port Facilities and Cargo Terminals--1982 (Washington, D.C., 1982), p. 3.

1. Twenty-two states have funding programs for land-site port and cargo facilities.
2. States invested $674.7 million between 1977 and 1981.
3. Tidewater land-site ports received $531.3 million state investments, Great Lake ports $66.9 million and inland waterway terminals $76.4 million.
4. The East Coast and the Gulf Coast received the most state investment money at $272.5 and $245.9 million, respectively.
5. The Midwest and the West received much less at $98.4 million and $57.9 million, respectively.
6. State port and terminal construction funds are administered by nine state departments of transportation, eight state port authorities, four state economic development agencies and one capital development agency.
7. Various procedures are used for state funding authorization, including twelve at discretion of state agencies, ten legislator-enactment of state agency recommendations, five by legislative authorization on a project-by-project basis.
8. Funding sources include general obligation bonds, general revenue funds, revenue bonds, user charges and excise taxes; the largest sources provided by general obligation bonds at $309.4 million.
9. In addition to the eight state port authorities, there are 239 local port authorities, port departments, dock boards, or port commissions created by state and local units of government to develop port facilities.

Nationwide for the four year period between 1977 to 1981, funding levels have been relatively consistent ranging from a low of $107 million to a high of $173 million, though beginning to drop off again in the 1981 period. And, certain states have been predominantly involved with funding port facilities (principally Louisiana and South Carolina) for deep draft ports on the coast. Illinois and Indiana have been involved with Great Lakes ports, and Indiana and Louisiana for inland waterways. Most states fund projects which purchase land, construct piers, docks and wharves, buildings, storage areas and facilities, cargo handling equipment, access roadways and railspurs, dock and navigation channel dredging, cargo terminal insurance and security facilities.[3] Most states also have permissive funding powers granted to local port authorities within local government rules and regulations. So, for example, local port authorities are allowed to issue revenue bonds, general obligation bonds, industrial revenue bonds, borrow money, receive grants or loans from the state, receive grants or loans from federal agencies. Far fewer are able to levy taxes.[4]

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[3] Ibid, p. 26. [4] Ibid, p. 36.

To generate and support this amount of activity, ports have to charge fees and collect revenues for services. Previous studies have found that ports use a variety of methodologies for determining their cost and charging fees and tariffs. The AAPA further found that it would be desirable to have a consistent approach available to the ports. And, the U.S. General Accounting Office identified a growing problem in the late 1970's regarding ports' financial position. Being a very competitive industry, such rate formulation was almost privileged information and did help one port maintain its edge over another port. On the other hand, unbridled "cut-throat" competition, would it left unconstrained, hurt some ports so much so that they would have severe financial difficulties. Although the situation was not yet chaotic, the potential did exist. Other transportation industries are now beginning to experience true deregulation and free flow pricing, i.e., railroads and trucking. They are, according to many shippers, approaching chaos. The port industry, though never being so closely regulated, has had the independence of pricing and relied upon the marketplace to maintain its relationships and its long-term stability.

Fourteen port authority structures representing all types were examined.[5] Earnings potential came from a variety of sources. Six of the ports were operating ports and eight were run by lessees and contractors. The majority earn their monies from usage revenues, principally from terminal fees and wharfage activities. An underlying message is that ports are quite sensitive to the volume of activity and their fee structure has a tight margin of profit. The more flexibility they have in adjusting their fees, the more possibility they can work closely with shippers and carriers to combine the best package for export activities. This allows and encourages competition in the marketplace and is generally healthy. Still, the central point is that cargo volume (not value) is the source of income for most of the ports.

Several other aspects of the American port system must be noted at the outset of this study:[6]

1. 42.2% of the berths in the nation are in port city population zones of 500,000 or more;
2. 28.6% of the berths in the nation are in port city population zones of 100,000 to 499,999;
3. The physical condition of the ports is in acceptable shape--58% of the national average as "good" and 29% of the national average as "fair;"
4. Between 1970-1976, the industry invested $138,689,000 in federally mandated environmental protection (70%); employee health/safety (11%); and cargo security (19%);
5. Between 1970-1976 the industry incurred $55,121,000 in operating costs for environmental protection (22%), employee health/safety (11%), and cargo security (67%).

The fact that most of the capacity is in already developed urban population areas is not surprising. What is of potential concern is, should these facilities require upgrading, modernization, or expansion, there simply may not be sufficient land surface area. Some ports have had to create new acreage from their dredge material. Another aspect of this is the potential expansion of freight movement to and from the harbors through the densely populated areas. More and more conflicts with competing public purposes policies are bound to occur. At some point, local jurisidictions may face the hard decisison--

> "should our port remain at its current level of activity with its known impacts, or should it be allowed to increase activity significantly and have possibly commensurate urban impacts?"

Lastly, the ports transported in 1981 888,444 net tons valued at $319,255,000,000. The leading tonnage was handled by New Orleans, however the highest cargo value was through New York. Tables II-4, 5 show the total commerce, export data and port rankings. The 1982 year showed a "dismal picture." The national total dropped to 787,138,500 tons.[7]

Conclusion

The coastal and inland ports of the United States represent a major economic and transportation activity. Their role and influence, collectively, is tremendous. Yet, politically, the governmental system responds in a fragmented way which in part represents the nature of the port and transportation industry. Even on key issues that cut across the lifeblood of a port's activities, that is the capacity of their facilities to handle large size vessels, channel and harbor dredging, for example, disagreement exists. Free enterprise attitude and the realities of competitive pricing directly affect port income sources. Pressures from local and state agencies or private operators to raise or lower charges illustrates their difficulty. Reaching a common position, good for the whole industry, on such matters is a complex process.

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[5]U.S. Department of Transportation, Usage Pricing for Public Marine Terminal Facilities--Volume I (Washington, D.C.: U.S. Government Printing Office, December 1981), pp. 1-10.

[6]U.S., Department of Commerce, Maritime Administration, National Port Assessment 1980/1990 (Washington, D.C.: U.S. Government Printing Office, 1980), pp. 13-27.

[7]American Association of Port Authorities, AAPA Advisory (May 30, 1983), p. 5.

Table II-4

TOTAL FOREIGN WATERBORNE COMMERCE - LEADING UNITED STATES SEAPORTS*

Calendar Years 1980 and 1981

	METRIC TONS 1980	METRIC TONS 1981	% of Change		DOLLAR VALUE 1980	DOLLAR VALUE 1981	% of Change
TOTAL UNITED STATES	828,702,500	888,144,000	- 1.1	TOTAL UNITED STATES	$ 296,670,000,000	$ 319,255,000,000	+ 7.6
New Orleans, LA	43,691,500	58,267,500	+ 34.0	New York, NY	$ 44,112,000,000	$ 44,664,000,000	+ 1.3
New York, NY	52,967,000	52,239,000	- 1.4	Houston, TX	22,999,000,000	26,[illegible],000,000	+ 15.6
Houston, TX	53,504,000	51,055,000	- 4.6	New Orleans, LA	15,173,000,000	17,[illegible],000,000	+ 15.9
Norfolk, VA	45,898,000	47,876,000	+ 4.3	Long Beach, CA	13,387,000,000	17,131,000,000	+ 28.0
BALTIMORE, MD	36,896,000	34,324,000	- 6.9	Los Angeles, CA	14,691,000,000	17,279,000,000	+ 19.5
Philadelphia, PA	33,296,500	31,231,000	- 6.2	BALTIMORE, MD	15,258,500,000	15,010,[illegible],000	- 1.6
Baton Rouge, LA	34,571,000	30,742,500	- 11.0	Seattle, WA	12,171,000,000	14,144,000,000	+ 16.2
Corpus Christi, TX	25,543,500	22,012,000	- 13.8	Norfolk, VA	10,783,000,000	10,600,000,000	- 1.6
Long Beach, CA	18,470,500	20,607,500	+ 11.6	Oakland, CA	8,829,000,000	9,5[illegible],000,000	+ 8.7
Tampa, FL	23,760,000	19,155,000	- 19.4	Philadelphia, PA	8,573,000,000	8,242,000,000	- 3.9
Newport News, VA	22,216,500	19,078,000	- 14.1	Charleston, SC	4,610,000,000	5,[illegible],000,000	+ 23.1
Portland, OR	14,151,500	15,830,000	+ 11.7	Baton Rouge, LA	5,826,000,000	5,397,000,000	- 7.4
Los Angeles, CA	13,492,000	14,867,500	+ 7.1	Portland, OR	3,852,000,000	4,666,000,000	+ 21.1
Mobile, AL	14,438,000	14,835,000	+ 2.7	Savannah, CA	4,043,000,000	4,661,000,000	+ 15.3
Marcus Hook, PA	11,347,500	12,953,000	+ 14.1	Corpus Christi, TX	4,548,000,000	4,254,000,000	- 6.7
Portland, ME	6,937,000	11,253,000	+ 62.3	Jacksonville, FL	3,543,000,000	3,951,000,000	+ 11.5
Tacoma, WA	11,983,000	10,634,000	- 11.3	Boston, MA	2,869,000,000	3,427,000,000	+ 19.4
Paulsboro, NJ	11,107,000	10,563,500	- 8.1	Tacoma, WA	3,359,000,000	3,275,000,000	- 2.5
Savannah, GA	9,065,500	10,140,500	+ 11.8	Marcus Hook, PA	2,499,000,000	3,195,000,000	+ 28.3
Seattle, WA	9,537,000	9,522,000	- 0.2	Galveston, TX	2,651,000,000	2,959,000,000	+ 11.0
Galveston, TX	7,549,500	9,596,000	+ 27.6	Tampa, FL	2,500,000,000	2,501,000,000	+ 0.04
Boston, MA	6,027,000	7,357,500	+ 22.1	Paulsboro, NJ	2,291,000,000	2,603,000,000	+ 4.9
Charleston, SC	4,986,500	5,436,500	+ 9.9	San Francisco, CA	2,018,000,000	2,305,000,000	+ 14.2
Jacksonville, FL	6,173,000	5,251,000	- 14.9	Newport News, VA	2,310,000,000	2,232,000,000	- 3.4
Oakland, CA	4,737,500	4,832,000	+ 2.0	Mobile, AL	1,910,000,000	2,056,000,000	+ 7.6
Wilmington, NC	3,416,000	3,383,000	- 1.0	Portland, ME	1,528,000,000	1,977,000,000	+ 29.4
Richmond, CA	3,033,000	2,521,500	- 16.9	Wilmington, NC	1,417,000,000	1,782,000,000	+ 25.8
San Francisco, CA	1,667,500	2,084,500	+ 25.0	Richmond, CA	913,000,000	858,000,000	- 5.0
Stockton, CA	1,728,500	1,652,000	- 4.4	Stockton, CA	269,000,000	299,000,000	+ 11.1

* Position - 1981

Source: Maryland DOT, Foreign Commerce Statistical Report -- 1981 (Baltimore: Maryland Port Administration, 1981), p.10.

Table II-5

FOREIGN EXPORT WATERBORNE COMMERCE - LEADING UNITED STATES SEAPORTS*

Calendar Years 1980 and 1981

	METRIC TONS 1980	METRIC TONS 1981	% of Change		DOLLAR VALUE 1980	DOLLAR VALUE 1981	% of Change
TOTAL UNITED STATES	401,326,000	410,000,000	+ 1.7	TOTAL UNITED STATES	$ 122,270,000,000	$ 128,4[illegible],000,000	+ 5.1
Norfolk, VA	40,500,000	43,588,000	+ 7.6	New York, NY	$ 16,116,000,000	$ 15,467,000,000	- 4.0
New Orleans, LA	24,141,000	38,850,500	+ 60.9	Houston, TX	11,732,000,000	13,063,000,000	+ 11.3
Houston, TX	22,434,000	23,294,500	+ 3.8	New Orleans, LA	8,183,000,000	10,562,000,000	+ 29.1
BALTIMORE, MD	21,665,000	21,468,000	- 0.8	BALTIMORE, MD	9,043,500,000	8,968,000,000	- 0.8
Newport News, VA	18,197,000	16,241,500	- 10.7	Norfolk, VA	7,188,000,000	7,144,000,000	+ 3.6
Tacoma, WA	19,133,000	15,041,500	- 21.3	Oakland, CA	4,8[illegible],000,000	5,070,000,000	+ 4.8
Baton Rouge, LA	15,867,500	14,368,000	- 9.5	Long Beach, CA	4,123,000,000	4,862,000,000	+ 17.9
Portland, OR	11,629,500	13,374,500	+ 15.1	Los Angeles, CA	4,083,000,000	4,521,000,000	+ 10.7
Long Beach, CA	9,140,500	11,647,500	+ 27.4	Charleston, SC	3,088,000,000	1,[illegible],000,000	+ 13.8
Tampa, FL	9,537,000	8,113,000	- 14.9	Seattle, WA	2,461,000,000	2,7[illegible],000,000	+ 12.6
Los Angeles, CA	5,916,000	7,746,000	+ 30.9	Baton Rouge, LA	3,073,000,000	2,505,000,000	- 18.5
Marcus Hook, PA	7,503,000	6,819,000	- 9.1	Portland, OR	2,067,000,000	2,434,000,000	+ 17.8
Galveston, TX	5,534,500	7,560,500	+ 36.6	Galveston, TX	2,046,000,000	2,281,000,000	+ 11.5
Mobile, AL	5,946,500	6,804,500	+ 14.0	Savannah, GA	2,110,000,000	2,279,000,000	+ 8.0
Philadelphia, PA	7,753,500	6,083,000	- 21.5	Philadelphia, PA	2,008,000,000	1,888,000,000	- 6.0
Savannah, GA	4,864,000	5,957,000	+ 22.3	Tampa, FL	1,907,000,000	1,6[illegible],000,000	- 14.0
Seattle, WA	5,011,500	5,166,000	+ 2.9	Newport News, VA	1,507,000,000	1,485,000,000	- 1.7
Corpus Christi, TX	4,444,000	3,596,500	- 24.0	Tacoma, WA	1,481,000,000	1,332,000,000	- 10.1
Oakland, CA	3,164,500	3,056,000	- 3.5	Mobile, AL	1,270,000,000	1,372,000,000	+ 8.4
Charleston, SC	2,595,500	2,874,000	+ 14.8	San Francisco, CA	1,026,000,000	1,188,000,000	+ 15.8
Jacksonville, FL	3,140,000	2,609,000	- 16.9	Wilmington, NC	857,000,000	1,137,000,000	+ 32.7
Stockton, CA	1,370,000	1,364,000	- 0.4	Jacksonville, FL	846,000,000	1,082,000,000	+ 27.9
San Francisco, CA	823,500	1,279,500	+ 55.4	Boston, MA	790,000,000	645,000,000	- 18.4
Wilmington, NC	612,000	719,500	+ 17.4	Corpus Christi, TX	710,000,000	606,000,000	- 18.1
Richmond, CA	680,500	626,500	- 8.2	Stockton, CA	243,000,000	260,000,000	+ 7.0
Boston, MA	835,000	579,500	- 30.6	Richmond, CA	257,000,000	217,000,000	- 15.6
Marcus Hook, PA	101,500	68,500	- 32.5	Paulsboro, NJ	54,000,000	60,000,000	+ 11.1
Paulsboro, NJ	73,000	54,500	- 25.3	Marcus Hook, PA	37,000,000	25,000,000	- 32.4
Portland, ME	40,000	11,000	- 72.5	Portland, ME	18,000,000	11,000,000	- 38.9

*Position - 1981

Source: Ibid. p.11.

Chapter III

PORTS AND TRADE

Introduction

Potential export trade is the main focus of this chapter. Information presented below amply documents the uncertain current trade situation, general causal factors, and the difficult position of the port industry in responding to this environment. The suggestion that the trade is potential is meant to highlight the fact that an opportunity exists. America is in a position to realize that potential. But until national policies and world economic directions are chartered, ports may stay very cautious.

Given recent economic events and current trends, strategic port planners and land transportation companies prefer to remain prudent. Commitments for large new export projects have been suspended or cancelled, until more confidence exists in where things are going. In any case, the export potential exists, *if* the United States sells what the world wants to buy, not what it produces. Export sales are dependent upon meeting a well-defined market need and satisfying it. They should not be driven by the reverse, that is, selling excess production designed for domestic (American) market consumption. The switch in philosophy is basic and has not yet occurred. Ports seem to understand that demand, not supply, drives exporting. The evidence is that U.S. industry does not understand this fact.

Current Trade Balance

Table III-1 shows U.S. trade balances in a variety of categories for recent years. Merchandise trade has shown a consistent deficit since 1977 at over $40 billion. The 1983 anticipated level is $60 billion.[1] Agricultural trade was showing a healthy surplus through 1981, but has declined with the world recession. The trade composition of the 1981 balances illustrate that the country has positive positions for capital goods, food and beverages, and other industrial supplies.

Overall, the U.S. share of world exports has declined from 15.4 percent in 1970 to 13.0 percent in 1981. Since 1980, almost all merchandise categories have worsened. The data demonstrate the severe degree American industry and agriculture have been impacted by the world recession and loss of American trade leadership. Many factors account for these problems, however a new one is now in play. The dollar has grown stronger; so much so, that foreign buyers' currencies cannot afford to purchase in

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[1]"U.S. Trade Gap Seen Widening Throughout '83," *Wall Street*

Table III-1

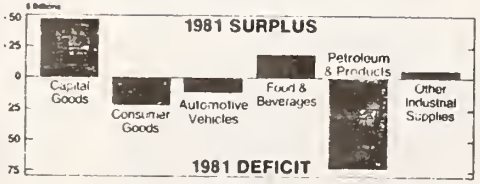
U.S. MERCHANDISE TRADE

	Exports f.a.s.	Imports f.a.s.	Balance f.a.s.	Balance c.i.f.[1]
	(Billions of dollars, annual rates)			
Total trade[2]				
1980 annual	220.6	244.9	-24.2	-36.4
1981 annual	233.7	261.3	-27.6	-39.7
1981 I	240.1	264.3	-24.2	-36.2
II	234.2	262.3	-28.1	-40.1
III	231.9	258.3	-26.4	-38.8
IV	227.9	281.1	-33.2	-42.6
Manufactures trade				
1980 annual	143.9	125.1	18.8	12.4
1981 annual	154.3	142.5	5.3	11.7
1981 I	153.5	135.1	18.4	12.3
II	158.1	138.6	19.3	13.0
III	156.5	147.5	9.0	2.2
IV	148.7	149.3	-0.8	-7.3
Agricultural trade				
1980 annual	41.8	17.4	24.3	22.9
1981 annual	43.6	17.0	26.8	25.2
1981 I	49.7	19.3	30.4	26.7
II	43.2	17.1	26.0	24.4
III	40.1	15.5	24.6	23.2
IV	42.3	16.2	26.1	24.5

[1] c.i.f. import values not shown. [2] Data on the U.S. Virgin Islands trade with foreign countries are included in U.S. trade statistics beginning 1981. Data for 1980 have been adjusted for this change.

Notes for tables: Quarterly data seasonally adjusted unless starred (*). All values in current dollars. f.a.s. — Free alongside ship. c.i.f. — Cost, insurance, and freight.

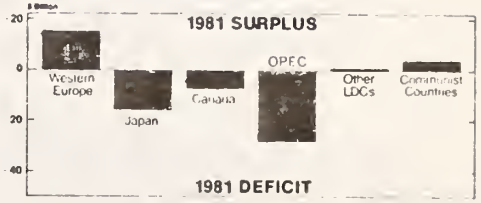
COMPOSITION OF U.S. MERCHANDISE TRADE



	Exports f.a.s.	Imports f.a.s.	Balance f.a.s.
	(Billions of dollars, annual rates)		
Capital goods			
1980 annual	72.5	29.6	43.0
1981 annual	80.2	34.5	45.7
1981 I	79.6	32.5	47.0
II	83.5	32.9	50.6
III	80.5	35.3	45.2
IV	77.8	37.5	40.3
Consumer goods			
1980 annual	18.2	34.4	-18.3
1981 annual	15.8	38.7	-22.9
1981 I	16.4	37.3	-20.9
II	16.2	37.1	-21.0
III	15.8	38.6	-22.8
IV	15.0	41.4	-26.4
Automotive vehicles and parts			
1980 annual	15.9	27.1	-11.2
1981 annual	18.0	29.7	-11.8
1981 I	17.5	26.9	-9.4
II	19.4	30.4	-11.0
III	19.6	30.5	-10.9
IV	15.8	31.5	-15.8
Food and beverages			
1980 annual	35.3	18.1	17.2
1981 annual	37.9	18.1	19.8
1981 I	44.1	20.1	24.0
II	37.9	18.2	19.7
III	35.0	17.6	17.4
IV	35.0	17.5	17.5
Petroleum and products			
1980 annual	2.6	78.6	-75.9
1981 annual	3.8	77.1	-73.3
1981 I	3.7	82.6	-78.9
II	3.1	84.4	-81.3
III	3.3	71.4	-68.1
IV	5.0	69.9	-64.9
Other industrial supplies			
1980 annual	67.7	52.2	15.8
1981 annual	64.0	57.5	8.4
1981 I	66.0	55.9	12.2
II	63.2	58.1	5.1
III	61.7	58.1	3.6
IV	62.6	58.7	3.9

Note: Commodity values do not add to U.S. trade totals because of omission of miscellaneous products.

U.S. MERCHANDISE TRADE BY AREA

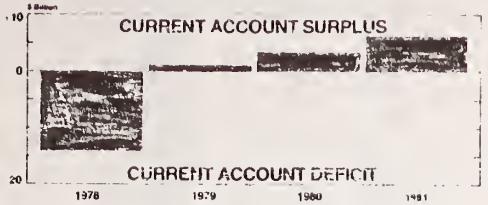


	Exports f.a.s.	Imports f.a.s.	Balance f.a.s.
	(Billions of dollars, annual rates)		
Western Europe			
1980 annual	67.5	46.6	20.9
1981 annual	65.3	51.9	13.5
1981 I	66.6	48.5	18.1
II	63.5	50.6	12.9
III	67.9	54.9	13.0
IV	63.8	53.9	9.9
Japan			
1980 annual	20.8	30.7	9.9
1981 annual	21.8	37.6	15.8
1981 I	22.8	35.1	12.3
II	20.6	36.4	15.9
III	20.6	38.2	17.6
IV	23.5	40.7	17.3
Canada			
1980 annual	35.4	41.5	6.1
1981 annual	39.6	46.4	6.8
1981 I	40.3	44.2	4.0
II	41.4	47.3	5.9
III	41.1	48.5	7.4
IV	35.7	46.1	10.4
OPEC*			
1980 annual	17.8	55.3	37.8
1981 annual	21.5	49.4	27.9
1981 I	20.3	57.5	37.3
II	22.4	53.0	30.6
III	21.4	42.9	21.5
IV	22.0	44.3	22.3
Other developing countries*			
1980 annual	63.4	61.7	1.7
1981 annual	67.4	66.9	0.5
1981 I	68.9	65.3	3.5
II	72.0	66.2	5.9
III	63.5	67.7	4.2
IV	65.4	68.4	3.0
Communist countries*			
1980 annual	7.6	2.5	5.1
1981 annual	8.0	3.5	4.5
1981 I	11.0	3.3	7.7
II	5.8	3.6	2.2
III	6.6	3.6	3.0
IV	8.4	3.3	5.1

Note: Areas are not intended to add to U.S. trade totals.

Table III-1 continued

U.S. BALANCE OF PAYMENTS CURRENT ACCOUNT



	Exports	Imports	Balance
	(Billions of dollars, annual rates)		
Current account total			
1980 annual	344.7	340.9 [1]	3.7
1981 annual			
1981: I	377.7	364.7 [1]	13.1
II	380.3	375.6 [1]	4.6
III	377.0	368.6	8.4
Merchandise trade (adjusted, excl. military) [2]			
1980 annual	224.0	249.3	−25.3
1981 annual			
1981 I	244.4	263.1	18.7
II	241.9	269.5	27.6
III	232.1	260.3	28.2
Services			
1980 annual	120.7	84.6	36.1
1981 annual			
1981 I	133.3	95.5	37.9
II	138.4	100.1	38.3
III	144.9	100.7	44.1
Investment income receipts and payments			
1980 annual	75.9	43.2	32.8
1981 annual			
1981: I	86.3	50.1	36.2
II	89.6	54.7	34.9
III	94.4	56.5	38.0
Business-related services [3]			
1980 annual	36.2	28.9	7.3
1981 annual			
1981 I	38.2	32.8	5.4
II	39.3	31.5	7.8
III	39.7	31.8	7.9
Other services			
1980 annual	8.8	12.5	−3.9
1981 annual			
1981: I	8.9	12.6	−3.7
II	9.5	13.9	−4.4
III	11.1	12.4	−1.3

[1] Includes unilateral tranfers.
[2] Values differ from those in "U.S. Merchandise Trade" table as they are adjusted to the balance of payments accounting.
[3] Primarily travel, transportation, fees, and royalties

KEY INTERNATIONAL COMPARISONS

Balance of Merchandise Trade

	Total 1980	Total 1981	With U.S. [1] 1980	With U.S. [1] Jan.-Sept. 1981
	(Billions of dollars, annual rates)			
United States	24.2	27.6		
France	14.5	10.9	−5.8	4.8*
Germany, Fed. Rep.	+10.5	+17.3	−2.3	2.1*
United Kingdom	+2.4	(2)	−3.3	(2)
Japan	+2.1	+20.0	+7.3	+12.5*

[1] Imports valued c.i.f. [2] Not available

	% Change in Trade 1980 to 1981: Exports	% Change in Trade 1980 to 1981: Imports	Exports as % of GNP, 1981
United States	+5.9	+6.7	7.8
France	8.1	10.0	17.8 [1]
Germany, Fed. Rep.	8.6	12.8	26.0
United Kingdom	+27.3 [2]	+15.0 [2]	22.3 [1]
Japan	+17.9	−3.9	14.5 [3]

[1] 1980 [2] 1979-1980 [3] January-September

Share of World Exports

	1970	1975	1979	1980	1981 [1]
	(Percent)				
United States	15.4	13.6	12.1	12.0	13.2*
France	6.4	6.7	6.7	6.3	5.9*
Germany, Fed. Rep.	12.1	11.4	11.5	10.5	9.6*
United Kingdom	7.0	5.6	6.1	6.3	(2)
Japan	6.9	7.1	6.8	7.1	8.4*

[1] January-September [2] Not available

Value and Share of Industrial Countries Manufactured Exports

	Value 1970	Value 1975	Value 1981	Share [1] 1970	Share [1] 1975	Share [1] 1981 [2]
	($ Billion)			(Percent)		
United States	29	71	154	21.3	19.1	18.6
France	14	40	74†	9.1	10.2	9.6
Germany, Fed. Rep.	31	80	144†	19.8	20.1	18.4
United Kingdom	17	37	86 [3]	10.4	8.9	9.9 [3]
Japan	18	53	145†	8.9	11.4	14.7

[1] Excluding exports to United States [2] January-June
[3] 1980 † January-September at annual rate

FACTORS INFLUENCING U.S. COMPETITIVE POSITION

	1980	1981	1981 I	1981 II	1981 III	1981 IV
	(% change from same period of previous year)					
Industrial Production						
United States	3.8	2.7	0.5	5.5	7.6	−1.8
France	1.8		−7.3	3.8	4.3	
Germany, Fed. Rep.	0.3		3.0	−1.8	0.0	
United Kingdom	6.9		8.5	−5.0	2.1	
Japan	8.8	2.9	1.3	0.9	4.1	5.5
Wholesale Prices for Manufactures						
United States	14.3	9.3	10.7	10.7	8.8	7.1
France	8.7		8.4	10.4	14.3	
Germany, Fed. Rep.	7.1	6.2	5.3	5.8	7.2	8.8
United Kingdom	16.3	10.5	10.8	10.2	10.0	11.1
Japan	14.4	1.0	3.4	−0.1	0.0	0.7
Value of U.S. Dollar Vis-a-Vis Other Currencies						
13 currencies	−0.3	9.9	2.2	8.9	17.8	11.3
French franc	−0.6	28.6	17.1	28.5	40.8	28.0
German D-mark	−0.8	24.3	17.4	25.7	36.8	17.7
U.K. pound	−8.8	15.7	−2.4	9.9	29.8	26.7
Japanese yen	3.4	2.7	−15.6	−5.3	5.4	8.8

	1960/70	1970/80	1979	1980	1981
	(% change, average annual rate)				
Productivity in Manufacturing					
United States	2.9	2.4	1.1	−0.3	2.7
France	8.1	5.0	5.4	0.6	
Germany, Fed. Rep.	5.7	5.2	8.3	−0.7	
United Kingdom	4.3	2.7	3.3	0.3	
Japan	10.5	7.1	8.0	6.2	

U.S. IMPORTS OF PETROLEUM AND PRODUCTS

	Quantity (Mil. bbl./day)	Value f.a.s. (bil. $)	Price per barrel (dollars)
	(Annual rates)		
1980 annual	7.0	78.6	30.64
1981 annual	6.1	76.7	34.30
1981: I	6.7*	84.2*	34.97
II	6.2*	80.3*	35.93
III	5.9*	72.4*	33.48
IV	5.8*	69.9*	32.69

Note: Values differ slightly from adjusted data in "Composition of U.S. Merchandise Trade" table.

Source: U.S. Department of Commerce, 1982

dollars. Yet, stronger dollars encourage American purchasing abroad, thus more imports. Some officials believe that the dollar must weaken. The situation is "temporary."[2]

Predicting Uncertainty

Port managers and exporting companies plan their courses on the fluctuating sea of world economics by consulting long-range economic forecasts. Basing one's future business plans on economic forecasting is chancy at best, but it is the only crystal ball available. As one observer noted, "The hard reality of the growing economic crisis of the 1970's has demonstrated the complete inadequacy of economic forecasting and the policy to the man and woman in the street, the business and government, and to economists themselves."[3]

Another strain on the world economy will be the increased world population. Today, about 80 million people, the equivalent of an additional Mexico or Nigeria, are added to the planet every year.[4] The United Nations' 1979 projections for the world population are between 5.8 billion and 6.5 billion people by the year 2000.[5] Almost 52 percent of the growth will be in less developed countries.[6] The doubling of the world population by the turn of the century requires the development of larger capacity for the production of energy, minerals, water and food in a relatively short period, with the help of science and technology. There is little doubt that resources of such magnitude can be produced, given sufficient time and dedication.[7] But again, such advancement in technology would call for more international economic cooperation than now exists.

The Less Developed Countries (LDCs) will experience severe

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[2]"Dollar Fever Infects the World," Business Week, (June 27, 1983), pp. 90-93; "A Devastating Impact on U.S. Industry," Business Week (June 27. 1983), pp. 94-97.

[3]Andre Gunder Frank, Crisis: In the World Economy, (New York, New York: Holmes and Meier Publishers, 1980), p. 21.

[4]U.S. Congress, World Population and Fertility Planning Technologies The Next 20 Years (Washington D.C.: Office of Technology Assessment, February 1982), p. 3

[5]Harold E. Dregne, Impact of Land Degradation on Future World Food Production, (Washington D.C.: U.S. Department of Agriculture/Economic Research Service/International Economics Division, March 1982), p. 1.

[6]World Population, op cit., p. 4.

[7]Dennis Gabor, et.al., Beyond the Age of Waste/A Report to the Club of Rome (Oxford: Pergamon Press Ltd., 1981), p. 215.

environmental and resource pressures that the More Developed Countries (MDCs) contribute a great deal to. Lower consumption levels in the MDCs plus developmental aid to LDCs could ease the population pressures. The governments of the LDCs will have to have huge agricultural increases to keep up with the unprecedented population growth. Food resources are expected to last at least until the year 2000. The distribution is, and will continue to be, a serious problem, and the burden of increased food production will be taken up on marginal lands.[8]

Help from developed countries to the LDCs would greatly ease the future food strain on those countries.[9] Even assuming optimistically that the level of food demand will be met in the LDCs through imports and increased production, improvement in the average diet will be modest at best. There are problems in having the developed countries help the LDCs cope with their increasing food demands. Redistribution of food is unpopular politically, because it can strain the economies of the developed countries. No matter what the political situation though, a very real problem that all countries face is the availability of agricultural land. At present only about sixty percent of the potentially arable land has been cultivated. Good agricultural land is always being lost through road building, the expansion of cities soil erosion and desertification. Human intervention has altered fifteen to seventeen percent of the earth's land area. Physical constraints to land development, however, should pose no significant limits on growth for the next few decades.[10] However, land degradation (desertification) can, it must be emphasized, blunt agricultural advances made to keep pace with the increased world population. The degradation is due to the erosion from water, wind, waterlogging, salinization, compaction, surface crusting and overgrazing. Land degradation will hamper food production most of the next two decades in the large group of countries extending from the west coast of Africa to the Sea of Japan, in Mexico, in five Central American republics and in Haiti.[11]

The U.S. Department of Agriculture has estimated that the rapid growth of cities in the LDCs is cutting into arable land by 0.03 hectares per capita year (one hectare equals 2.4 acres). This rate would lead to an eventual loss of 49 million hectares of arable land by the year 2000.[12]

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[8] World Population, op. cit., p. 43.

[9] Gabor, op. cit., pp. 43, 158-173.

[10] Lincoln Gordon, Growth Policies and the International Order (N.Y., N.Y.: 1980s Project/Council on Foreign Relations, Inc., McGraw-Hill, 1979), p. 168.

[11] Dregne, op. cit., pp. 1-17.

[12] World Population, op. cit., pp. 47-55.

At present, more than 90 percent of the world energy is provided by fossil fuels.[13] Over the past three decades, the world energy demand has increased at a rate of 5 percent per year. The causes of such energy increases are growth of population and per capita energy consumption (to improve the standard of living in the poorer nations), increased need for water and fertilizer and energy-intensive uses for environmental protection. Based upon the growth and energy needs of the past decades, some forecasters believe the same growth rate will apply to the end of this century. However, if no new energy supply systems are found, there will be a critical shortfall in available energy sources by the middle of the 21st Century.

Even though there are possible future sources of energy to replace fossil fuels, the current use of nuclear fusion and fission, solar and geothermal energy is very limited. Nuclear fusion has not proved a feasible energy alternative. Large-scale solar energy processes are at present too costly. Geothermal energy processes are at present limited and localized. Nuclear fission, many appear to be the most advanced and feasible long lasting source of energy. But for the next two or three decades the world energy demand will fall on fossil fuels.

In developing countries, high energy consumption is a great present and future strain on the overall world energy system. In India, Brazil, Argentina, Mexico, and others of equal economic standing, the energy consumption doubles in less than ten years. One major problem in these countries is that the main technologies incorporated into their economic base are highly capital intensive and energy intensive. If that situation is to continue in these countries, it will put an enormous strain on their economies and on the world economy as a whole. An alternative measure which could relieve the strain would be to have the developed countries help the developing countries absorb new technologies for coal-based fuels and/or nuclear energy, as well as for other technologies such as solar energy.

According to many experts in the field, the world will have time to adjust the structuring and developing of capitalism itself, in that there will be enough recoverable oil for use in current globe-consumption rates for eighty years. If those rates increase, the recoverable oil might last only forty years. Most public estimates of future oil supplies have been done by the oil companies themselves. Oil company reserves have traditionally been where the companies draw from to meet their production commitments, representing a supply of up to thirty years. Those reserves, and thus the basis for most future estimates of oil supplies, do not take into account possible larger resources recoverable through intensive exploration efforts.

[13]Gabor, op. cit., pp. 6-10, p. 95.

The energy alternative to petroleum with the greatest potential is that squeezed out of coal. Coal is abundant worldwide and coal extraction technology is at an advanced state. Coal reserves worldwide have been estimated to be able to handle the current rate of coal use for the next 2,700 years. If coal consumption keeps growing, however, it could last for only 135 years![14] If coal were allowed to substitute, many of the industrialized nations energy concerns could be faced more easily. Thus the potential market may be huge. Figure III-1 shows the role of coal in energy, world coal imports, coal export potentials, and U.S. coal export revenues.

Thirty developed countries, making up less than 30 percent of the world's population (and possibly only 20 percent of the population in the year 2000) take in 90 percent of the world income, financial reserve and fuel production, and 95 percent of the world's scientific and technological production; in turn, they produce 60 percent of the world's agricultural output and consume over 60 percent of the food.[15]

With this general global setting in mind, the United States is, by far, the world's largest food exporter.[16] Over the last decade, U.S. exports of grain and oil seeds have increased dramatically (Figure III-2). Export volumes of wheat, corn, and soybeans were nearly tripled in 1980 over 1970. In 1980,the U.S. exported 55 percent of its wheat production and 35 percent of its corn production. The total 1980 export value of wheat, corn, and soybeans was $20.7 billion, ten percent of <u>all</u> U.S. exports.[17]

Total U.S. grain productions in 1981 was 21.7 percent higher (at 14.9 billion bushels) then the 1980 total. Total wheat production was up 17.9 percent in 1981. The 1981 total corn production figure was 8.2 billion bushels. The 1981 soybean crop total was 2.0 billion bushels.[18]

But the U.S. is beginning to face some stiff competition in the exporting of food. An example of this can be seen in the recent pullout of China in the U.S. grain market. In May 1982, China ordered $300 million in U.S. wheat. This year, they are not expected to buy any U.S. grain for the summer, because they can buy it cheaper from Argentina and France.

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[14]Benoit, <u>op. cit.</u>, p. 39. See also U.S. Congress Comm. on Interstate and Foreign Commerce, <u>Hearing Before the Subcommittee on Energy and Power: Coal --Bridge to the Future</u> (Washington, D.C.: Government Printing Office, May 20, 1980), pp. 3-4.

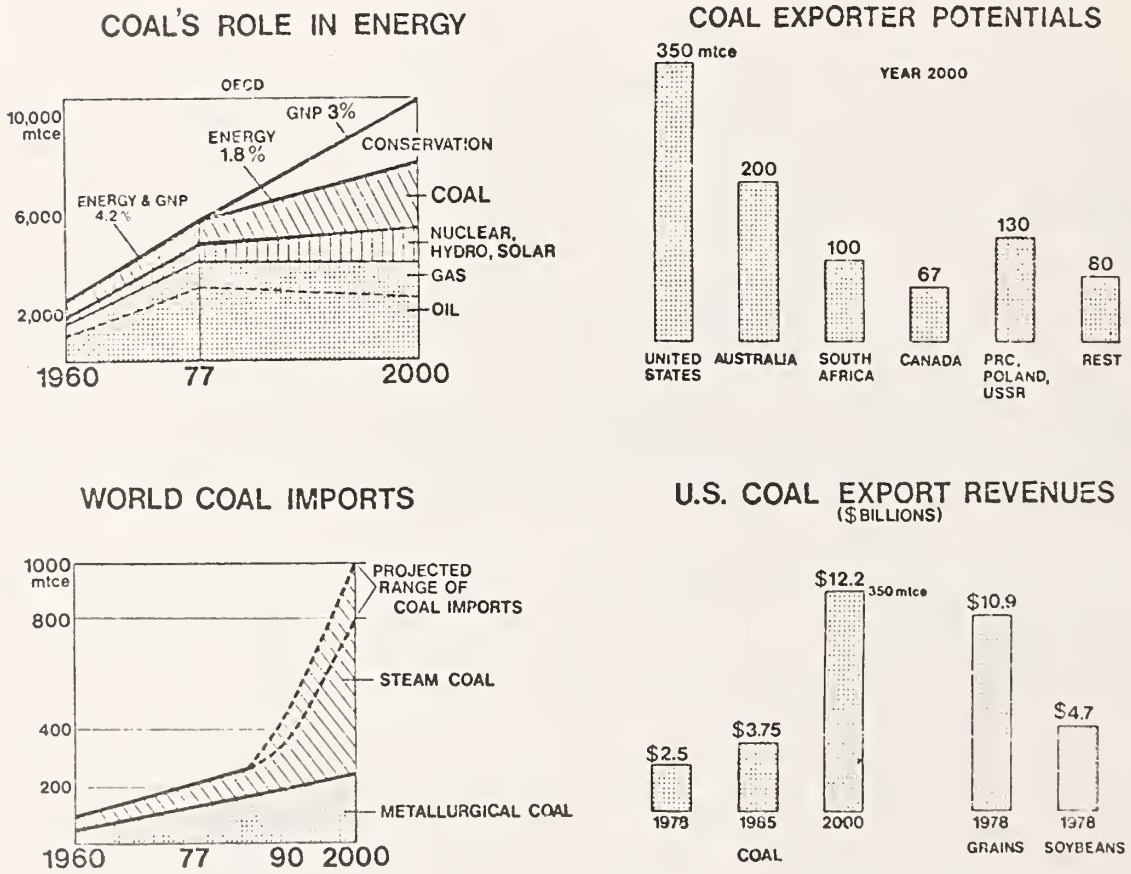
[15]Frank, <u>op. cit.</u>, p. 1 [16]Gordon, <u>op. cit</u>. p. 96.

[17]U.S. General Accounting Office, <u>Market Structure and Pricing Efficiency of U.S. Grain Export Aystem</u> (Washington, D.C.: Government Printing Office, June 15, 1982), p. ii.

[18]American Association of Railroads, <u>The Grain Book</u>, (Washington, D.C. 1983), p. 3.

The U.S. share of world trade in grains has fallen from 60 percent in 1980 to 53 percent in 1983. Since the 1980 Russian grain embargo, the U.S. share of Soviet grain imports has dropped from 70 percent to 20 percent. And the U.S. share of grain imports by Eastern European nations is 51 percent this year as compared with 74 percent in 1982.[19]

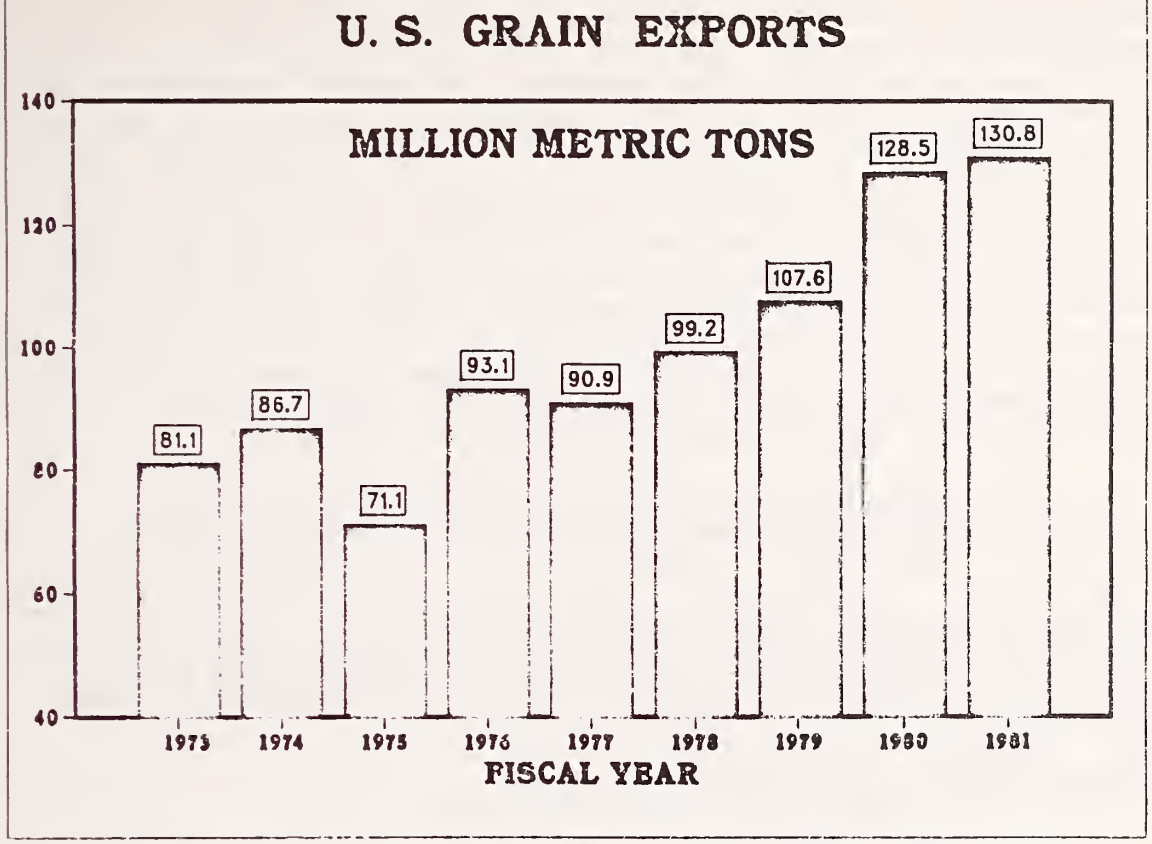
Figure III-1



Source: Coal-Bridge to the Future in U.S. Congress, Hearings Before Subcom. on Energy and Power (Washington, D.C.: Government Printing Office, May 20, 1980), pp. 74-75.

[19] Sue Shellenbarger and Jeffrey H. Birnbaum, "Long U.S. Dominance in Certain Trade Is Slowly Diminishing", Wall Street Journal (May 19, 1983), p.1.

Figure III-2



Source: Association of American Railroads, The Grain Book (Washington, D.C.: 1983), p. VII-6. Reprinted with permission.

Concerning future energy use, the U.S. economy is projected to become increasingly energy efficient during the next two decades, mainly because of past and future rises in energy prices.[20] Total U.S. primary energy consumption was projected to increase only about one-half as fast as economic growth from 1980 to 2000, growing from about 78 quadrillion BTU's (quads) in 1980 to about 100 quads by 2000. Total domestic energy production (including export coal) should increase from about 67 quads in 1980 to about 100 quads by the year 2000. Of that increase, nearly two-thirds is projected to come from higher coal production, about 23 percent is projected to come from nuclear production, and about 13 percent is projected to come from hydropower and geothermal power.

Conservation has cut energy demand more efficiently in the U.S., cutting down its dependence on foreign oil. Although the U.S. will continue to import oil at close to today's levels through the mid-1980s, net oil imports beyond 1985 should decline.

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[20] U.S. Department of Energy, Energy Projecting to the Year 2000 (Washington, D.C.: Government Printing Office, July, 1981), pp. 1-5 to 1-16; 7-1 to 7-4.

Coal is expected to be the alternative fuel in the U.S. over the next 20 years. Existing U.S. coal mines and transportation infrastructures are capable of producing and delivering about 90 million tons of coal per year, which is about 60 million tons per year above current coal production levels. The average annual growth rate in the U.S. coal exports of about five percent shows the growing demand for coal as an alternative source of energy in other countries as well. By far the largest part of the projected growth in U.S. coal exports is for steam coal. Nearly eighteen billion tons of coal will be mined on federal land already leased for development, which should provide adequate new mine capacity for the next decade. Significant problems may come about after 1990, however, should the size and number of new leased tracts not be increased. Coal prices are projected to increase by about only two percent per year during the next two decades--the lowest price increase projected for any fuel.

The projected increase in coal production will require expansion and improvement in railroad capacity in this country to avoid possible coal transportation bottlenecks in both the East and West. In the East, rail systems need much upgrading to handle additional coal trains. In the West, new facilities will have to be constructed to move up to five hundred million tons of coal projected to come out of the Northern Great Plains in the mid 1990s.

Significance for Ports

As noted in Phase I of this study,it is quite difficult to separate from the preceding data the demand for U.S. products by the year 2000. The nation's share may be much larger, if it actively markets export opportunities. Federal government initiatives are designed to develop more industrial sales abroad.

By 1990, cargo exports for the nation (Table III-3) are

Foreign Cargo Movements by Region
(000's L/T)

	1975			1980			1985			1990		
Region	Imports	Exports	Total	Imports	Exports	Total	Imports	Exports	Total	Imports	Exports	Total
North Atlantic	155,091	63,629	218,720	279,067	70,573	349,640	304,138	84,419	388,557	365,568	105,450	471,018
South Atlantic	32,152	6,948	39,100	47,393	8,285	55,678	51,481	10,244	61,725	60,928	12,654	73,582
Gulf Coast	118,828	94,728	213,556	120,236	114,323	234,559	137,405	137,910	275,315	167,552	168,720	336,272
South Pacific	40,912	15,537	56,449	72,577	17,712	90,289	80,435	20,723	101,158	99,008	25,308	124,316
North Pacific	15,845	27,957	43,802	19,518	38,956	58,474	23,964	50,545	74,509	30,464	63,270	93,734
Great Lakes	19,153	31,509	50,662	26,044	35,709	61,753	29,583	39,803	69,386	38,080	46,398	84,478
Total	381,981	240,308	622,289	564,835	285,558	850,393	627,006	343,644	970,650	761,600	421,800	1,183,400

Source: U.S. Bureau of the Census Foreign Trade Statistics, and Maritime Administration Foreign Trade Forecasts.

Source: U.S. Dept. of Commerce, Maritime Admin., National Port Assessment 1980/1990 (Washington, D.C.: Government Printing Office, 1980), pp.44.

projected at 421,800,000 long tons (L/T) compared to 285,558,000 L/T in 1980. This represents a 47 percent increase.[21] To meet the combined export and import cargo growth,[22] the equivalent of 247 new port facilities will be needed by 1990, including 27 additional breakbulk handling facilities, 25 additional other bulk berths, 22 new petroleum berths, 6 new LNG facilities, and 19 new berths for handling other liquid bulk cargoes. The most urgent requirements for added container handling capacity in the 1980-1990 forecast period are expected to be concentrated in ports of the south Pacific, North Pacific, and North Atlantic coastal regions. The greatest need by 1990 for new or expanded breakbulk facilities is expected to occur in port areas in the Atlantic and Gulf coasts. It is anticipated that ports in the Gulf and the Great Lakes regions will experience the greatest need for added grain handling facilities from 1985 to 1990. The most significant need by 1990 for new and expanded dry bulk handling facilities is expected to be experienced in the Gulf and Great Lakes region ports.

During the 1980's, no significant changes are anticipated in cargo handling or shipping technology to influence appreciably seaport terminals beyond present trends toward increased ship size. Projections for U.S. foreign trade through 1990 indicate tonnage growth for each of the major regional areas studied. The current trend of imports exceeding exports will continue to increase from 61 percent level in 1975 to a 64 percent level in 1990.

Ports are already responding to that anticipated need for additional facilities. But the plans and projects in many locations have been slowed, as illustrated by the situation of coal exports. In 1981, coal exports were at an all time high of 110 million tons. By 1982, they dropped to 105 million tons and the rate of decline is increasing in 1983. On the other hand, most ports have excess coal handling capacity now.[23]

Trying to take into account all the uncertainties discussed here, one additional factor must be added. The productive capa city and population centers of the United States are shifting to the "sunbelt" sections of the country. Should these related

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[21] U.S. Department of Commerce, Maritime Administration, National Port Assessment 1980/1990 (Washington, D.C.: Government Printing Office, 1980), p. 44.

[22] Ibid., pp. 5-6.

[23] Jonathan Lansner, "U.S. Coal Industry Sees the Bubble Burst," Los Angeles Times (June 16, 1983), Pt. I-B, pp. 1-4.

trends continue, port capacity may be out of synch with locations of production and seaport shipment abroad. Pacific Rim trade potential, for example, initially may be more easily served by ports on the West Coast. Gulf and eastern ports may lose export business in some cargoes because it may become cheaper and faster to ship by rail, pipeline, or truck to the West Coast than through the Panama Canal or around South America or Africa. Similarly, should African and Middle Eastern trade grow, East and Gulf Coast ports may experience the same advantage instead. There are the commensurate land transportation implications too. Such conjecture is fascinating and may confound strategic policy formulation.

Conclusion

Assuming economic stability and relatively balanced international exchange values, U.S. export trade should grow. The largest potential is the basic life support needs of the developing nations. If they do not raise or produce the items themselves, then the U.S. can meet their needs effectively and be a reliable, long-term provider. It does require though that American industry produces what the foreign customer needs, not what is convenient to sell as excess domestic production. Ports can only help call attention to such disparaties, whether for the developing or developed nations. Again, as stated at the outset the potential exists in overseas markets.

Chapter IV

INTERGOVERNMENTAL PUBLIC POLICY

Introduction

This chapter reviews in broad brush, with important specifics, the role of government for the export transportation process. That role addresses public policy at the federal, state and local level which directly and indirectly affect transportation of export commodities and goods from the hinterland to the seaports. For the most part, this means: land and river transportation such as highways, rails, pipelines and barges; and facilities at key points such as intermodal transfer activities, terminals, storage and processing areas. And within the harbor, it addresses the activities of the ports, whether public or private, and the loading process and ultimately sailing out beyond the harbor and territorial waters.

On the whole, the laws discussed here operate indirectly until there is cause for contact. There must be a "trigger mechanism." Otherwise, the system is functioning adequately and has learned to adjust itself. The highest general level of export activity was reached in 1979-81 period. Fear existed at the time that continued export growth would be blocked by the intergovernmental system. It would come down heavily to prevent rapid expansion from occurring, or at the very least make it difficult, lengthy and expensive. The net effect would hurt our competitive position in world trade.

The economic recession of the early 1980's makes this fear at first seem remote and far fetched. In fact, it is still quite probable whenever growth quickly rebounds. The same issues will arise again. Believing that this is temporary, public agencies have a rare opportunity to review for the moment in a more leisurely way how to make the export and intergovernmental transportation policy system work better.

The purpose therefore of this chapter is to identify the factors that helped the intergovernmental system grow to where it is, some of the general problems with it, the specific transportation related laws and regulations at the federal, state and local level and then illustrations of points-of-contact.

Development of Existing Intergovernmental Policy System

Intergovernmental public policy affecting the export transportation process is difficult to separate from the mainstream of intergovernmental public policy in terms of general characteristics. Governmental size and scope in general are so broad, comprehensive and pervasive that transportation is one of multi-numbered functions at the federal, state, local level that suffer from similar common problems.

Federal regulations have grown significantly in recent years, along with the growth of federal aid.[1] Whether it be the growth in the number of federal regulatory agencies, the number of administrative law judges, amount of funds budgeted for regulatory agencies, the number of federal mandates imposed on local governments, or pages published in the Federal Register and Code of Federal Regulations, each has increased dramatically and illustrates the pervasive growth of the federal role in American life. Such increases in regulatory activity are coincidental to the growth in the federal role of funding intergovernmental relations and activities. The pattern calls attention to the fact that as the federal government spends more and shares its revenues more, it requires more conditions and strings. Figures IV-1, 2 illustrate most vividly the relationship between regulatory increase and aid increase. The three major categories of regulation--economic, health and safety, and social equality--represent a majority of activities. Health and safety and social equality have experienced the most rapid growth (Figure IV-3). By 1980 there were forty-one agencies (Table IV-1).

These federal regulatory agencies have counterparts at the

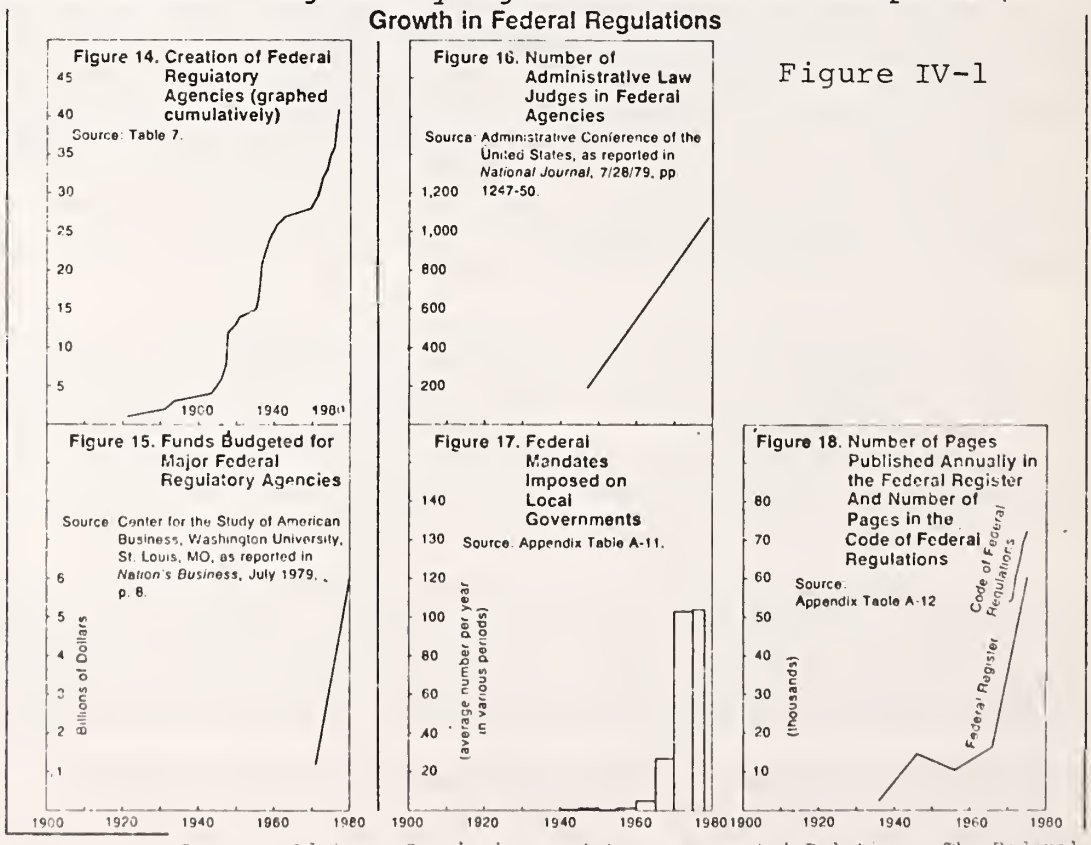


Figure IV-1

Source: Advisory Commission on Intergovernmental Relations, The Federal Role in the Federal System: A Crisis of Confidence and Competence (Washington, D.C.: Government Printing Office, A-77, July 1980), p. 47.

[1]Advisory Commission on Intergovernmental Relations, The Federal Role in the Federal System: A Crisis of Confidence and Competence (Washington, D.C.: U.S. Government Printing Office, A-77, July, 1980), p. 47.

Figure IV-3

Growth in Federal Aid

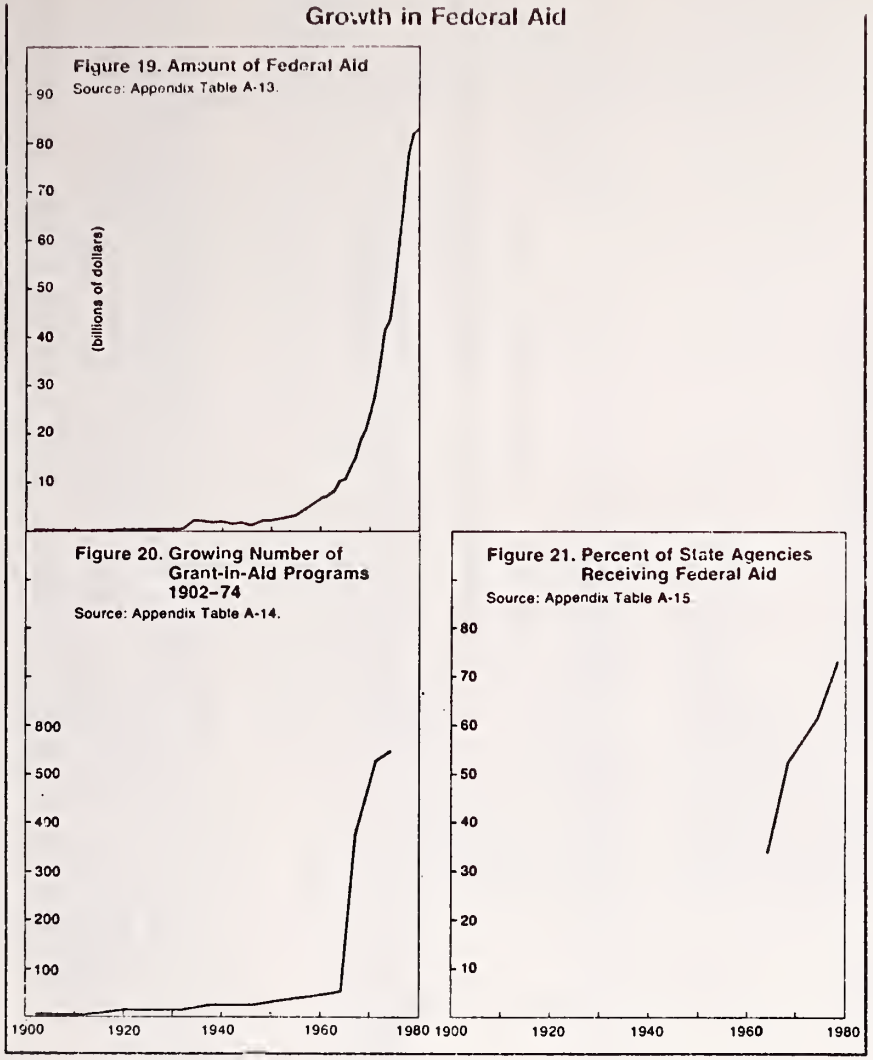
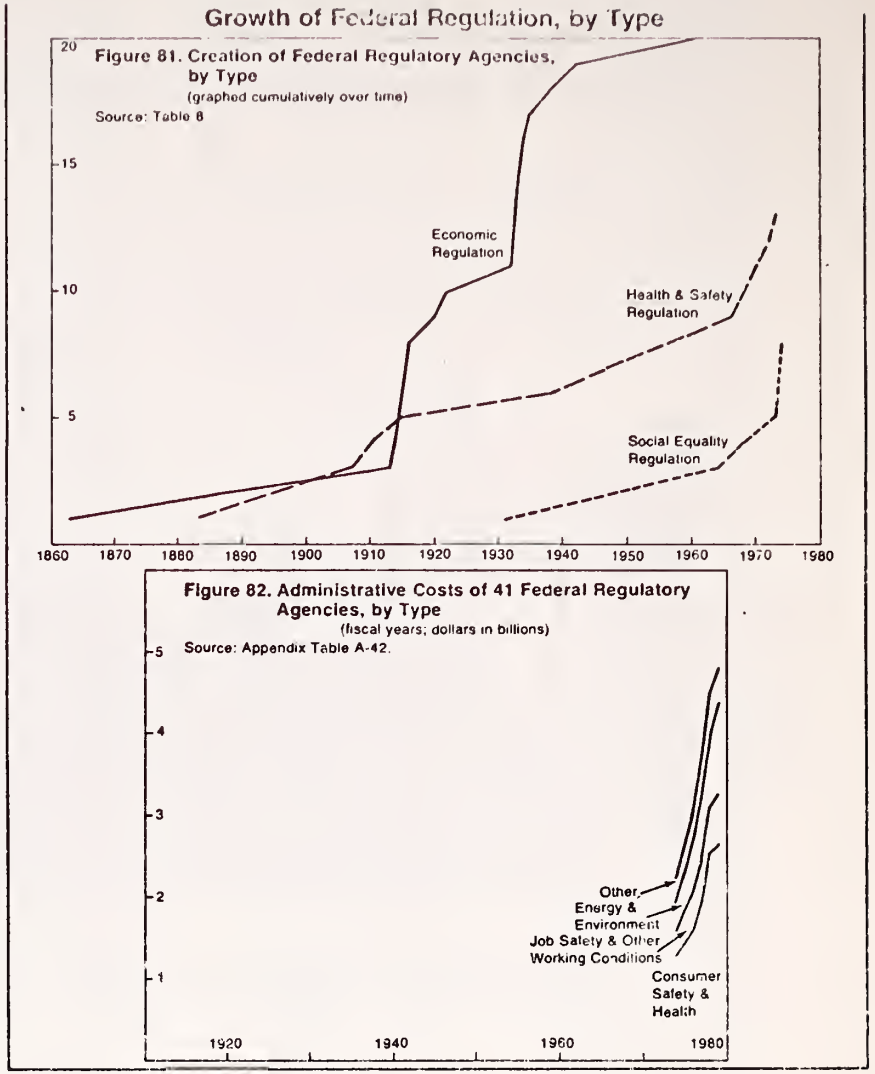


Figure IV-2

Growth of Federal Regulation, by Type



Source: Advisory Commission on Intergovernmental Relations, The Federal Role in the Federal System: A Crisis of Confidence and Competence (Washington, D.C.: Government Printing Office, A-77, July 1980), p. 48 and 77.

Table IV-1

MAJOR FEDERAL REGULATORY AGENCIES, BY TYPE AND YEAR FIRST ESTABLISHED (counting predecessor agencies)

I. Economic (20 agencies)

1863	Comptroller of the Currency/Department of the Treasury
1887	Interstate Commerce Commission
1913	Federal Reserve System
1914	Federal Trade Commission
1916	Packers and Stockyards Administration/Department of Agriculture
1916	Federal Maritime Commission
1916	Federal Grain Inspection Service
1916	Agriculture Marketing Service
1920	Federal Energy Regulatory Commission/Department of Energy
1922	Commodity Futures Trading Commission
1932	Federal Home Loan Bank Board
1933	Federal Deposit Insurance Corporation
1933	Commodity Credit Corporation
1933	Agricultural Stabilization & Conservation Service
1934	Securities and Exchange Commission
1934	Federal Communications Commission
1935	National Labor Relations Board
1938	Civil Aeronautics Board
1942	Council on Wage and Price Stability
1970	Cost Accounting Standards Board

II. Health & Safety (13 agencies)

1883	Animal and Plant Health Inspection Service
1907	Food Safety and Quality Service
1907	Food & Drug Administration, Department of Health, Education and Welfare
	Drug Abuse, 1962
	Cigarettes, 1966
1910	Mining Enforcement and Safety Administration, Department of the Interior
1915	Coast Guard, Department of Transportation (Boating Safety)
1938	Federal Aviation Administration, Department of Transportation (Air Safety)
1946	Nuclear Regulatory Commission
1966	National Highway Traffic Safety Administration, Department of Transportation
1966	Federal Railroad Administration, Department of Transportation (Rail Safety)
1970	Environmental Protection Agency
	Air Quality, 1970
	Water Quality, 1972
	Noise Abatement, 1972
	Drinking Water, 1973
1970	Occupational Safety and Health Administration
1972	Consumer Product Safety Commission
1973	Drug Enforcement Administration, Department of Justice

III. Social Equality (8 agencies)

1931	Employment Standards Administration, Department of Labor
1964	Civil Rights Division, Department of Justice
1964	Equal Employment Opportunity Commission
1968	Consumer Credit Protection
1973	Office of Human Development, Department of Health, Education and Welfare (Handicapped)
1974	Energy Conservation
1974	Labor-Management Services Administration, Department of Labor (Employees Pension Programs)
1974/76	Federal Election Commission

SOURCE: Office of the Federal Register, *1977/78 United States Government Manual*, Washington, DC, U.S. Government Printing Office, 1977; and Louis M. Kohlmeier, *The Regulators*, New York, NY, Harper & Row, 1969, Appendix, pp. 307-12.

Source: Advisory Commission on Intergovernmental Relations, The Federal Role in the Federal System: A Crisis of Confidence and Competence (Washington, D.C.: Government Printing Office, A-77, July 1980), pp. 78-79.

state and local levels. Their separate but similar activities affect intergovernmental relationships at all levels, businesses and private organizations, individuals and families. To influence public and private activity, policy may use a variety of approaches, including procurement of goods and services, regulation, taxation, grants, reporting requirements, and litigation. These in turn may override other policy, be very complex and detailed, and require additional costs in time and money.

Other illustrations of how regulations influence so many aspects of individual and business life, but particularly business for this study, are shown in the following tables. Table IV-2 shows how the various cross-cutting regulations influence all aspects of the business process. Table IV-3 highlights what the crosscutting regulations are. With all these regulations in place at the federal level, the U.S. District Courts' civil caseload has increased since 1970 from a level of roughly a little under 90,000 to over 130,000 in 1977.[2]

This federal influence costs quite an amount. The Commission on Federal Paperwork estimated in 1977 federal costs for individuals, businesses, and state and local governments were more than $100 billion a year and that $10 billion was unnecessary. For example, attributed to the federal level were $43 billion in costs, private sector $25-$32 billion, state and local government $5-$9 billion, individuals $8.7 billion, farmers $350 million, and labor organizations $75 million. Lastly, the annual costs of federal regulation in 1979 equaled $102.7 billion, of which $4.8 billion were administrative costs, and $97.9 billion were compliance costs.[3] These laws and implementing programs receive more complaints than compliments. That may be a function of the most immediately affected party being able to make its reactions and opinions known.[4]

In a related area of regulation, the automobile industry, and industry in general experienced increased costs from these requirements. Figure IV-4 shows the relationship through the late 1970's.

Transportation-Related Intergovernmental Policy

The preceding general observations apply, more and more, to the state and local levels of government. There is the growing belief that as the federal government begins to lessen its role in these areas, state and local intergovernmental policy will establish or expand their own counterparts.

In the Phase I report, Transportation Institutional Bottlenecks and Barriers to U.S. Exports, principal points-of-contact with the intergovernmental system were found to be related primarily to significantly expanded or new port/export

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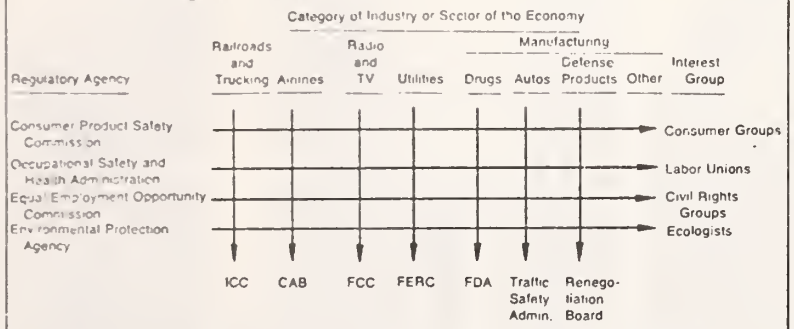
[2] Ibid., p. 89. [3] Ibid., p. 145. [4] Ibid., p. 92.

Table IV-2

Growing Federal Influence over Business and Government
Regulation Affects All

Figure 89. Variations in Federal Regulation of Business

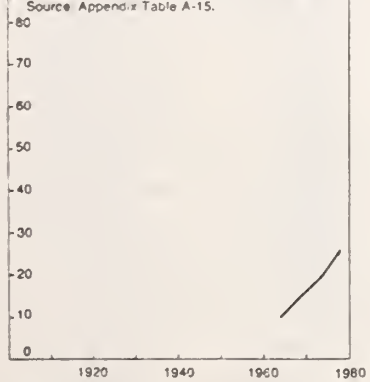


Source: Murray L. Weidenbaum, *The Costs of Government Regulation of Business*, A Study Prepared for the Use of the Joint Economic Committee, 95th Congress, 2nd Session, Joint Committee Print, April 10, 1978, Washington, DC, U.S. Government Printing Office, 1978, p. 9.

Federal Aid Dominates More

Figure 90. Percent of State Agencies Receiving 50% or More of Budget from Federal Aid

Source: Appendix Table A-15.



Litigations Spreads

Figure 91. Cases Docketed in Federal Appellate Courts, Per Million Population

Source: Appendix Table A-10.

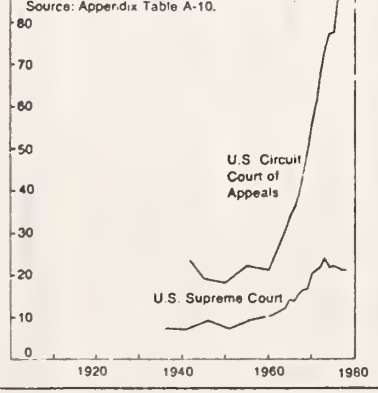


Table IV-3

MAJOR SOURCES OF GENERAL NATIONAL POLICY OBJECTIVES APPLICABLE TO GRANT PROGRAMS

Nondiscrimination

Age Discrimination in Employment Act of 1967
Architectural Barriers Act of 1968
Civil Rights Act of 1964, Title VI, VII
Education Amendments of 1972, Title IX
Education for All Handicapped Children Act of 1975
Equal Pay Act of 1963
Executive Orders 11141 (1963) and 11246 (1965), Nondiscrimination in Employment by Government Contractors and Subcontractors.
Executive Order 11764, Nondiscrimination in Federally Assisted Programs, 1968
Executive Order 11914, Nondiscrimination with respect to the handicapped in federally assisted programs, 1976
Rehabilitation Services Act of 1973, Section 504
State and Local Fiscal Assistance Act of 1972
Urban Mass Transportation Act of 1964, as amended 1970, Section 16

Environmental Protection

Clean Air Act of 1970, Section 306, and *Federal Water Pollution Control Act*, Section 508, 1970
Endangered Species Act of 1973
Flood Disaster Protection Act of 1973
National Environmental Policy Act (NEPA), 1969
National Historic Preservation Act of 1966

Planning and Project Coordination

Demonstration Cities and Metropolitan Development Act of 1966, Section 204
Intergovernmental Cooperation Act of 1968, Title IV

Relocation and Real Property Acquisition

Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970

Labor and Procurement Standards

Davis-Bacon Act, 1931, (as incorporated into individual grants when enacted)
Office of Federal Procurement Policy Act, 1974
Urban Mass Transportation Act of 1964, as amended, Section 13c
Work Hours Act of 1962

Public Employee Standards

Anti-Kickback (Copeland) *Act* (1934, '46, '60)
Hatch Act (1939, '40, '42, '44, '46, '62)
Intergovernmental Personnel Act of 1970

Access to Government Information and Decision Processes

Citizen Participation (numerous grant programs in past three decades)
Family Educational Rights and Privacy Act of 1974 (Buckley Amendment)
Freedom on Information Act, 1974
Privacy Act of 1974

SOURCES: The Federal Grants Reporter, National Reporter Systems, Inc., 1976; Evelyn Idelson, "1976 Perspective of Title VII," *County News*, Washington, DC, National Association of Counties, April 19, 1976, p. 9, and ACIR staff.

Source: Advisory Commission on Intergovernmental Relations, The Federal Role in the Federal System: A Crisis of Confidence and Competence (Washington, D.C.: Government Printing Office, A-77, July 1980), pp. 85 and 86.

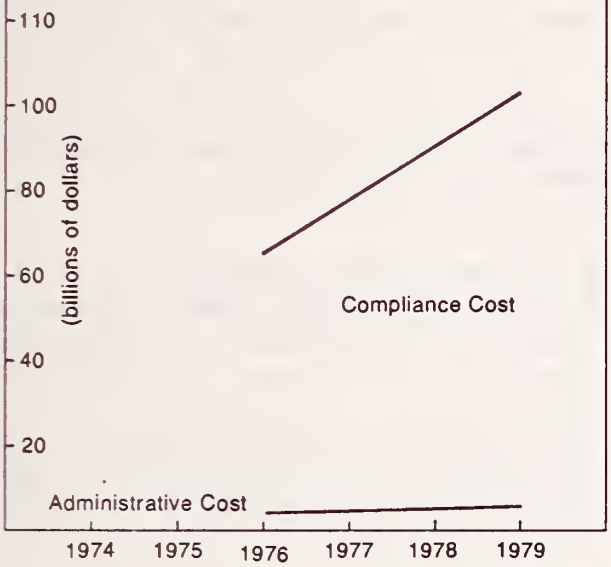
Figure IV- 4

Costs of Federal Regulation

Total

Figure 93. Annual Cost of Federal Regulation

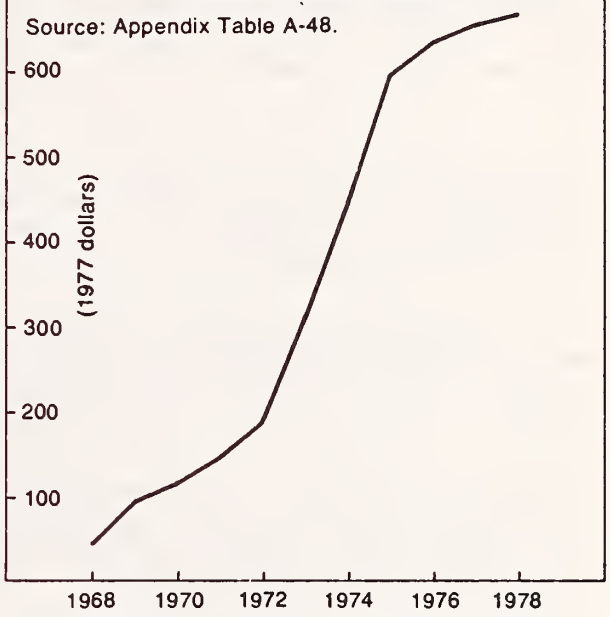
Source: Appendix Table A-47.



Automobiles

Figure 94. Cumulative Increase in Retail Price of Automobiles Due to Federal Requirements, 1968-78

Source: Appendix Table A-48.



Pollution Abatement and Control

Figure 95. Private and Public Spending for Pollution Abatement and Control

Source: Appendix Table A-49.

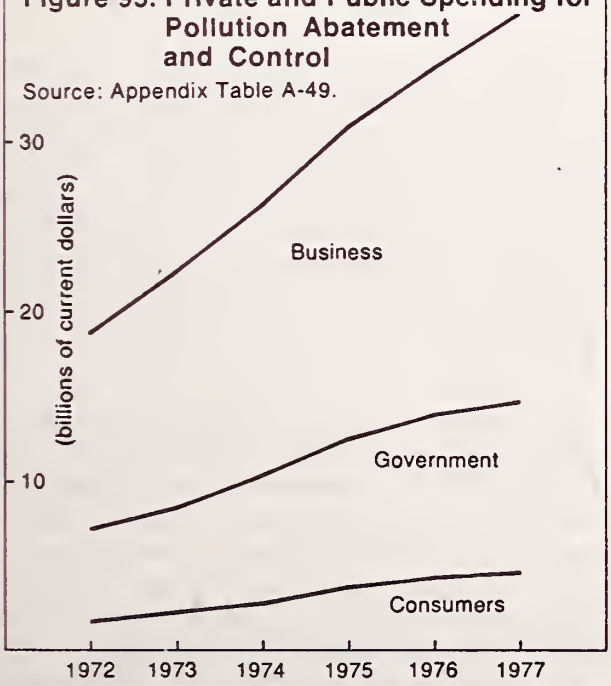
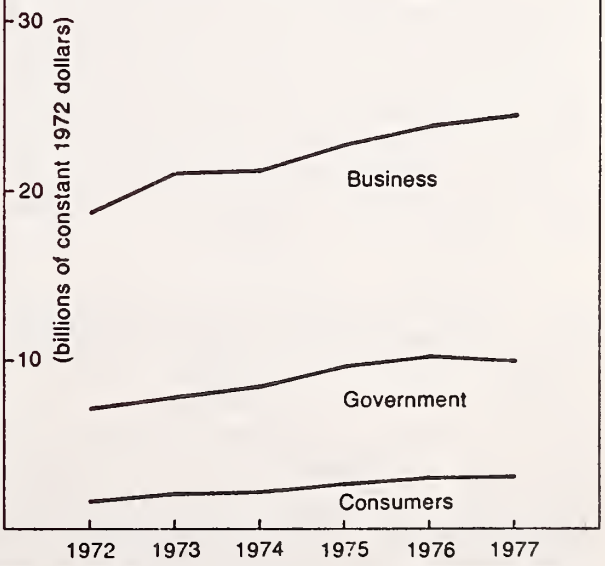


Figure 96. Private and Public Spending for Pollution Abatement and Control

Source: Appendix Table A-50.



Source: Advisory Commission on Intergovernmental Relations, The Federal Role in the Federal System: A Crisis of Confidence and Competence (Washington, D.C.: Government Printing Office, A-77, July 1980), p. 98.

transportation cargo flows rather than existing operations. Special concerns included the broad spectrum of environmental regulation (air, water, wildlife, dredge waste, noise), highway and rail safety, trucking size and weight limitations, state utility operation licensing, environmental air and water permits, local land use and zoning. Each of these in the national and California frame-of-reference did influence, and often controlled the nature of the activity proposed, its implmentation speed and cost. That type of control is what the process had in mind to do, but for each individual law. The true test of the existing system did not take place. It was not fully stressed and proved, so long as trade demand was declining. The pervasive impression and belief was and is that whenever trade picks up, the critical links will reappear.

According to carriers and many shippers, federal trucking and railroad regulation unduly limited competition and increased costs. The limited experience with deregulation of these two areas has confirmed initial observations of Phase I. Basically, better services and lower costs might result in selective service zones or routes. If the number of carriers is still small, one to three, for example, it may not result in an improvement. And, in some locations service may be abandoned altogether due to marginal profit potential.

Several additional national examples add to the complexity of the intergovernmental mosaic. They address export tax policy, rate conferences, cargo preferences, and merchant marine, labor, safety and hazardous cargo.

Most states and local governments seem to have a tax policy that is benign to the export process. Due to the Constitution's Interstate Commerce clause and traditions, goods and commodities in transit through the state to port facilities are not taxed. Similarly, with the creation of foreign trade zones, all goods and commodities processed or held in transit are not taxed. The State of Louisiana specifically writes into its constitution a clause prohibiting taxation of export raised or manufactured in the state, in addition to those in transit through the state from non-Louisiana origins.

A recent ruling by the United States Supreme Court in Xerox vs. County of Harris, decided eight to one that "states may not impose taxes on goods that are temporarily stored in the United States Customs bonded warehouses awaiting shipment overseas." This case was the result of Harris' County and the City of Houston attempting to tax the Xerox Corporation on nine million dollars worth of copiers which were assembled in Mexico, stored in Houston, for shipment to and sale in Latin America. The situation was challenged by Xerox on "two grounds--the Import Export clause which forbids the state to tax without the consent of Congress and a Commerce Clause which gives Congress the right

to regulate foreign and domestic commerce.[5]

Something to watch here is that if other sectors of the economy become more pressed, particularly local and state governments for revenue from any source whatsoever, there is a distinct possibility that there will be more attempts to tax any or all aspects of the export transportation process. This is not meant to be exclusionary or punitive, more likely just part of the general scramble for funds.

With the tightening of the economy and deregulation, competition is becoming more fierce. The federal government system that encouraged the conference and shipper association system or rate making bureaus for the different modes of transportation is coming under increased stress. Their members compete with each other and other modes of transportation for business. The rate agreements generally reached by the process are being slowly struck down and dissolved with the open-ended competition.

For ship owners, it is more to their advantage to avoid the system. As capacity is larger and larger, demand less, and ships taken out of service, it is essentially a buyer's market. The rates have to be competitive and in many cases for the more attractive or heavily traveled routes, things have been rather exciting. One observer noted, "the recent rate slashing has been a boon for many U.S. exporters, but for shipping firms, it has been a disaster. It's amazing to me that half of these guys are still around." Given that many common carriers are supported by their national government or benefit from very low labor rates compared to United States' wage scales, American carriers are at a major disadvantage for export. That is with the exception of cargo required to be carried on American ships and subsidized by federal maritime procedures. About sixty percent of the transatlantic traffic is subject to the conference control system and it is beginning to diminish. The current anti-monopolistic attitude in government indicates that this system will be subject to more stress. One aspect having difficulty in meeting the challenge is the competitive position of point-to-point shipments which are "essentially door to door deliveries involving sea and land transport as opposed to just dock to dock service. Point-to-point transport rates are rapidly gaining favor." And, the United States restrictions limit the shipping companies' and carriers' involvement in this.[6]

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[5]Troy R. Westmeyer and Wesley Westmeyer, editors, "Finance Section"; "States Can't Tax Goods Awaiting Export," National Civic Review (February 1983), p. 115.

[6]Bill Paul, "As Ship Owners Shun Conference System, Rates are Slashed and Profits Reduced," Wall Street Journal (May 20,1983), p. 30.

The war between Argentina and the United Kingdom over the Falklands illustrated the value of keeping a nation's merchant marine available and modern for critical national defense needs. The U.S. merchant marine has been allowed to shrink in size. A higher profit can be made by American ship owners under foreign flags. American labor standards and safety and operating standards force higher costs. Other national governments operate directly or subsidize private operation to a larger extent (e.g., the Soviet Union) than the U.S. does.

The sorting out of the regulatory burden on ship owners now underway needs to consider the relationship in several spheres. Some believe in the U.S. that the Occupational Safety and Health Administration has intruded on vessels regulated by the Coast Guard. Vessel safety design, construction and operation standards along with environmental protection need to be conducted for a proper balance, but with greater reliance on private industry. In any case concern is raised that "the possibility that state and local governments may perceive these trends as creating a vacuum and conceivably embark on a spree of regulation-writing which would burden maritime commerce.[7]

Congress has been studying the impact of cargo preference requirements. In the shipment of dry bulk materials some speculated in legislation that "at least 40% of the nation's dry bulk imports and exports" could be carried by U.S. flag, U.S. built vssels. Our merchant marine carries only one percent of the dry bulk trade. Prosposed legislation was particularly concerned by the potential impact of requiring more American exports to be carried by American flag ships. Specifically, "will exports be inhibited or become non-competitive?" It is a matter of degree in that without subsidy, the costs are very high and the burden would then be placed upon the dry bulk cargo exporters, that is, the manufacturers and producers. Another facet is the capacity of the American merchant marine. If the requirement for forty percent for export/imports were installed, most likely the ships would not be available at the proper times. That would in turn drive up the charter rates from other carriers--American or otherwise--and tighten up the market.

All these costs, therefore, can be distributed back to the producers or forward to the purchaser. Much depends upon the size of the export market.[8]

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[7]W.M. Benkert, President of the American Institute of Merchant Shipping, Speeches before the Propeller Club, Port of Boston (May 21, 1982), and North Atlantic Ports Association (December 3, 1981).

[8]Morton A. Myers, Director, Program Analysis Div., U.S. General Accounting Office letter to Congressman Nick Rahall, "Effects of Cargo Preference Requirements for Dry Bulk Exports and Imports." (may 7, 1982).

Despite the intense competition for shippers associations, conferences and rate bureaus caused by deregulation, the economy and lower trade demand, some parts of the American economy can still do very well by them. The United States military according to one study can save several million dollars annually by using selected non-profit shipper associations to transport less than truckload freight shipments over long distances nationwide. Such shipper associations equal as much as thirty percent of the nation's rail, piggyback container movements.[9]

Discussed in more detail under the Port of Baltimore section is significant labor relationships, new laws, and wage agreements regarding the International Longshoremen's Association. Particularly interesting is a recent agreement between the steamship companies and the ILA about "less than full container loads" originating within fifty miles of a port. Essentially, ILA members must handle these loads if they are not owned or leased, by their shipper. Some attack these as "make-work" provisions to prevent technological and trade changes. ILA accordingly suggests that these rules are "a valid form of work preservation, a way to stop the flow of small parcels to less expensive off-pier consolidators." These rules essentially implement the decision in spring 1983 renewing the ILA and carrier agreements.[10]

Increasing costs spill over to other contract clauses. The federal Longshoremen's and Harbor Workers Compensation Act, 1972, was unclear and too costly. Understaffing in the Department of Labor slowed processing of claims, which represented a tripling of injuries and six hundred percent benefit increase. The insurance was expensive for employers and some avoided membership. The employee thus might not have legitimate coverage and the employer might have a competitive cost advantage. Some employees might receive, net, more payments from injury and disability than from pre-injury contract wages.[11]

Whether it be container rules, injury or job security funds, or cargo diversion problems, the International Longshoremen's Association/AFL-CIO actively resists any changes it perceives in

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[9]Donald J. Horan, Director, Procurement, Logistics, and Readiness Division, U.S. General Accounting Office letter to Caspar Weinberger, Secretary of Defense - "Use of Shipper Associations Would Reduce DOD's Transportation Costs" (April 6, 1982).

[10]William Banker, "Seminar Highlights Problems withthe 50-Mile Rule," Shipping Digest (May 23, 1983), p. 30.

[11]U.S. General Accounting Office, Longshoremen's And Harbor Workers Compensation Act Needs Amending (Washington D.C.: U.S. Government Printing Office, April 1, 1982), pp. i-iv.

the existing union-carrier relationships. Although these are important aspects, there still are more subject to future negotiations: intermodalism, changing shipping patterns, new types of vessels, feeder operations, JSP payouts.[12]

Operational safety of all the equipment involved in the transportation process is quite complex. Just to illustrate one facet is the case of vessel and longshoremen's operations. Occupational Safety and Health Administration rules, Title 29, Chapter XVII illustrate the complexity. In that section, (Table IV-4), Part 1918--Safety and Health Regulations for Longshoring, the level of detail covered includes gangways and gear certification, means of access, working surfaces, opening and closing hatches, ships cargo handling gear, cargo handling equipment other than ships gear, handling cargo, general working conditions, personal protective equipment. Each of these basic subparts is spelled out in greater and greater detail. Note that each subpart or paragraph or rule under each is rather lengthy and detailed too. What is important to realize further is that this is not particularly outstanding or exceptional. This level of detail is often found in many federal and state regulations for all sorts of transportation-related activities.[13]

Table IV- 4

PART 1918—SAFETY AND HEALTH REGULATIONS FOR LONGSHORING

Subpart A—General Provisions

Sec.
1918.1 Purpose and authority.
1918.2 Scope and responsibility.
1918.3 Definitions.
1918.4—1918.5 [Reserved]
1918.6 Standards incorporated by reference.
1918.7 [Reserved]
1918.8 Amendment of this part.

Subpart B—Gangways and Gear Certification

1918.11 Gangways.
1918.12 Gear certification.
1918.13 Certification of shore-based material handling devices.
1918.14 Container cranes.
1918.15 Effective date of §§ 1918.13 and 1918.14.

Subpart C—Means of Access

1918.21 Gangways and other means of access.
1918.22 Jacob's ladders.

Sec.
1918.23 Access of barges and river towboats.
1918.24 Bridge plates and ramps.
1918.25 Ladders.

Subpart D—Working Surfaces

1918.31 Hatch coverings.
1918.33 Stowed cargo and temporary landing platforms.
1918.33 Deck loads.
1918.34 Skeleton decks.
1918.35 Open hatches.
1918.36 Weather deck rails.
1918.37 Barges.
1918.38 Freshly oiled decks.

Subpart E—Opening and Closing Hatches

1918.41 Coaming clearances.
1918.42 Beam and pontoon bridles.
1918.43 Handling beams and covers.

Subpart F—Ship's Cargo Handling Gear

1918.51 General requirements.
1918.53 Specific requirements.
1918.53 Cargo winches.
1918.54 Rigging gear.
1918.58 Cranes.

Subpart G—Cargo Handling Gear and Equipment Other Than Ship's Gear

1918.61 General.
1918.62 Fiber rope and fiber rope slings.
1918.63 Wire rope and wire rope slings.
1918.64 Chains and chain slings.
1918.65 Shackles.
1918.66 Hooks other than hand hooks.
1918.67 Pallets.
1918.68 Chutes, gravity conveyors and rollers.
1918.69 Powered conveyors.
1918.70 Portable stowing winches.
1918.71 Rain tents.
1918.72 Tools.
1918.73 Mechanically-powered vehicles used aboard vessels.
1918.74 Cranes and derricks other than vessel's gear.
1918.75 Notifying ship's officers before using certain equipment.
1918.76 Grounding.

Subpart H—Handling Cargo

1918.81 Slinging.
1918.82 Building drafts.
1918.83 Stowed cargo, tiering and breaking down.
1918.84 Bulling cargo.
1918.85 Containerized cargo.
1919.86 Hazardous cargo.

Subpart I—General Working Conditions

Sec.
1918.91 Housekeeping.
1918.92 Illumination.
1918.93 Ventilation and atmospheric conditions.
1918.94 Sanitation and drinking water.
1918.95 Longshoring operations in the vicinity of repair and maintenance work.
1918.96 First aid and life saving equipment.
1918.97 Qualification of machinery operators.
1918.98 Grain fitting.
1918.99 Commercial diving operations.

Subpart J—Personal Protective Equipment

1918.101 Eye protection.
1918.102 Respiratory protection.
1918.103 Protective clothing.
1918.104 Foot protection.
1918.105 Head protection.
1918.106 Protection against drowning.

APPENDIX I—CARGO GEAR REGISTER AND CERTIFICATES

SUBJECT INDEX FOR 29 CFR 1918—LONGSHORING

AUTHORITY: Sec. 41, 44 Stat. 1444, as amended, 33 U.S.C. 941, unless otherwise noted.

SOURCE: 39 FR 32074, June 19, 1974, unless otherwise noted.

Source: U.S. Government Code, Title 29, Chapter XVII

Some of the cargo can be hazardous as well. Chemical cargos are a significant volume of our exports. By 1981, the United States was exporting $233 million of chemical cargo. A growing

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[12]Thomas W. Gleason, President, International Longshoremen's Association/FLA-CIO, "The President's Report", March 1982 and, ILA Newsletter, December 1982.

[13]See U. S. Government Code, Title 29. See also U.S. Coast Goard, Dept of Transportation, Port and Tanker Safety Act of 1978, A Report to Congress. (Washington, D.C.: U.S. Government Printing Office).

body of opinion exists that the matter of hazardous cargo is too important and too overwhelming for individual regulation by local and state agencies. The Hazardous Material Transportation Act, January 3, 1975, "preempts any requirement of a state or political subdivision thereof which is inconsistent with any requirement or regulation issued under the HMTA." The value of uniform safety standards is quite apparent given the diversity of shipments, locations and requirements. Current federal regulations with wide application cover key subjects: definitions and description of hazardous materials; communication, including preparation of shipping papers, package labeling, and vehicle placarding; packaging requirements and specifications for containers authorized for shipment of hazardous materials; and loading and handling procedures for shippers and carriers. Such uniformity can perhaps extend to other governmental functions. However, here there seems little doubt about the criticality of the situation and the value of uniformity.[14]

a. State governments are spared the expense of maintaining costly and duplicative regulatory agencies;
b. Industry is spared the expense of complying with multiple, diverse, and inconsistent regulations;
c. The public is spared the expense of the higher taxes and commercial prices necessary to support separate regulatory schemes;
d. All sectors benefit from removal of the areas of confusion and uncertainty among the various jurisdictions, thus more clearly defining the true areas of disagreement which require intergovernmental resolution;
e. All sectors benefit from the enhancement of the Nation's posture in foreign commerce through recognition by international regulatory organizations that the United States has adopted a uniform set of standards.

The nature of the hazardous materials' shipments for all purposes, domestic and international, appear to be enormous. There are over eighteen thousand materials that might be considered hazardous. In 1979 about two billion tons were transported by highway and eighty million tons by railroad. The majority of the railroad shipments are in tank cars which represent ten percent of the U.S. rail fleet. The United States Department of Transportation in 1979 received reports of "17,524 incidents, involving 46 deaths and 941 injuries. The vast majority of

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[14] Materials Transportation Bureau, U.S. Department of Transportation, Toward a Federal/State/Local Partnership in Hazardous Materials Transportation Safety (Washington D.C.: U.S. Government Printing Office), pp. 1-14.

incidents reported, over 16,500, were by highway and rail."[15]

Guidelines for Intergovernmental Policy

Perhaps the most cogent and best description of the overall difficulties of the intergovernmental system is by the Advisory Commission on Intergovernmental Relations:[16]

1. administrative failures, red-tape, and tension between levels of government--the problem of "implementation;"
2. poor performance and inadequate results--a question of impact of "evaluation;"
3. excessive cost and waste--a matter of fiscal efficiency;" and,
4. lack of adequate control and responsiveness to the political process--the issue of "accountability."

"In other words, the contemporary problems of intergovernmental relations have fundamental administrative, programmatic, fiscal, and political dimensions."

These ideas-implementation, evaluation, efficiency, and accountability--strike at the very heart of our intergovernmental system. The guidelines (or criteria) identified have been recognized for many years and widely supported by many observers. Business, government, non-profits, citizens, all sectors of our life have felt the differences. The matter has now come to a head, in part, because society no longer has the resources available to accomplish many goals at the same time. The intensity of competition for the scarce resources, particularly between the public and private sector, has grown and the citizens have reflected their concern by the tax limitation movements and shifting attitudes about government and the importance of government. Despite the fact that our export transportation system touches almost all parts of the system and that trade is responsible, according to the President, for one out of every five jobs in the country, the public does not widely perceive the relationship nor does it necessarily have to. It knows there is a larger problem. These factors again address the larger problem and apply very often to transportation.

Implementation is particularly vulnerable to the problems of the complex, multi-actor, incrementally developed system. The National Governors Conference has identified contemporary administrative issues representing a different but related van-

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[15]U.S. Department of Transportation, Urban Consortium for Technology Initiatives/Public Technology, Inc., Transportation of Hazardous Materials (Washington, D.C.: U.S. Government Printing Office, September 1980), pp. 2-3.

[16]ACIR, Fed. Role..., op. cit., p. 4.

tage point in the system:[17]

1. Lack of coordination among federal departments or agencies limit the effectiveness of programs in addressing problems they were designed to solve and increase the administrative burden on the states.
2. The federal executive branch has exceeded its proper authority in some areas, encroaching on matters which are in the proper jurisdiction of the states.
3. Federal regulations are prescriptive in methodology, rather than oriented toward end results.
4. Excess reporting and paperwork requirements must be met by states participating in federal programs.
5. Funding and program implementation held up by lengthy approval processes, absence of program guidelines, and other administrative practices cause serious dislocations and inequities at the state level.
6. Lack of federal coordination and consistency in implementing indirect cost determination procedures creates continuing administrative confusion for states.

As one former high governmental official put it,[18]

> There is a growing body of objective evidence that government is not performing this new task effectively. The counter-productivity of governmental regulation of transportation is well-documented. Efforts to improve the environment, while far from a failure, are unnecessarily expensive and increasingly bogged down in Rube Goldberg regulations, legal snarls, and games between regulators and industry as enforcement dealines draw near. Although the compilation of absurdities perpetuated in the name of industrial safety often emenates from suspect sources--the industries being regulated--even the sympathetic observer finds it hard to recognize many of the regulations as anything but absurdities.

Such observations are replete in the literature and by observers at all levels of government, whether from elected or appointed, civil servant, Democrat or Republican. These are bi-partisan observations. They address the ability of government to

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[17] National Governors' Conference, Roadblocks to Efficient State Government: A Sampling of the Effects of Federal Red Tape (Washington, D.C.: National Governors' Conference, 1976), p. 2, cited in ACIR, Ibid., p. 8.

[18] Ibid., p. 9.

do what it is supposed to.

An increasing concern across the board has been rising cost and fiscal inefficiencies. Signs were everywhere that such was the case, however, in a formal sense it took Proposition 13 in the state of California to focus national attention on the grass roots rebellion. Propostion 13 was the state citizen sponsored initiative to limit the property taxes to one percent of the assessed valuation at the 1975 levels. Proposition 13 represents a great dividing line. It pinpoints the shift in public opinion and governmental response. Since then, the constrained fiscal environment, economic uncertainty, shifting of national priorities, all add up to greater attention upon costs and fiscal efficiency.

The final concept is responsiveness and accountability.More and more observers believe government is less responsive and less accountable. Whether by intent or accident the effect is still the same. For the proverbial man in the street, the tax rebellion and election changes represent one response to this continually growing situation. For businesses that must deal with it, it represents more expense, time lost, uncertainty on how to operate and directions for long term plans. For the export process and transportation, it represents every one of these things in a microcosm, project-by-project.

Another way to view the problems identified is that they are symptoms, not causes. Underlying causes which may in fact contribute to these difficulties have been grouped into the following categories:[19]

1. overexpectation and undereffort in dealing with chronic social problems;
2. the assumption of governmental responsibilities for meeting complex human or societal needs in areas where the knowledge of effective policies is lacking;
3. inadequate recognition of the limitations of administrative agencies--especially networks of administrative agencies--in performing complex and sensitive new tasks;
4. an inability to define objectives and an excessively fragmentary, unplanned approach to the formation of public policy;
5. improper design of many public programs, including inadequate attention to expected costs as well as benefits and possible unintended consequences.

Urban areas feel these intergovernmental problems directly. The

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[19] Ibid., p.26.

National League of Cities observed that:[20]

> In recent years, the nation has wasted too many of its urban resources and has decreased the productivity of too much of its urban investment. The litany of specific "urban problems" is familiar. In some places the problem is precipitous decline; in others, the problem is uncontrolled growth; in most places, decline and growth exist paradoxically side by side.
>
> Problems have spawned programs--programs for housing, programs for employment, programs for the environment, programs for transportation. And yet the problems continue to overwhelm the programs.
>
> We need a way to conceive of cities and city problems that leads to feasible and effective solutions.
>
> We need to learn how governments can implement these solutions effectively.

The nation's port and surface transportation systems have been developed over the years to serve many of the very cities affected by such problems. The transportation system is thusly directly affected.

Policy Changes

President Reagan in recognizing this has responded by studying the regulations and the role of government at the federal level. His administration has proposed programs to share federal tax revenues through block grant programs with fewer strings, to return them to the states and local governments for their needs, and to lessen the regulatory role. Much of this is already underway, such as deregulation of interstate commerce, railroads and trucking, and airlines.

A Presidential Task Force on Regulatory Relief, chaired by Vice President Bush, conducted broad spectrum review of the situation and requested input through hearings and surveys.[21] One group that prepared a special report was the National Governors Association.[22] The study reviewed major aspects of

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[20]National League of Cities, National Municipal Policy-1983, (Washington, D.C.: 1983, NLC), p.v.

[21]U.S. Congress, House of Representatives, Subcommittee of the Committe on Government Operations, Hearings--Current Condition of American Federalism (Washington, D.C.: U.S. Government Printing Office, April, May, June, October, 1981).

[22]National Governors Association, Eliminating Roadblocks to Efficient, State Government--the Governors' Green Book, Washington, D.C.: National Governors Association, 1981, p. 1-6.

intergovernmental policy and established criteria for its recommendations, which include:

1. state involvement
2. regulatory and statutory impact analysis
   --federal interest
   --uniform crosscutting requirements
   --state systems
   --implementation time table
   --implementation outlook

In summary, the state involvement suggests that more and more state officials must become a party in the regulatory development process. "Too often state officials are treated as just another interest group and participation is limited to the formal process of public review and comment." Impact analysis is equally important and should be a higher priority the task force believes. Various aspects of that analysis must include the review of what precisely is the federal interest. Is it possible that the state may assume it without a strong federal role? It should also consider that when a new regulation or statute is created, a lead agency has been empowered to cross cut all other activities and overlap as well. As states grow and assume more responsibilities, they often can achieve the very same purpose without the need for the federal regulation. In effect, this is a procedure for substitution or certification of state systems where appropriate. The time allowed for implementation should be such that new laws or changes in regulations provide "grantees adequate time to adjust without disruption." Finally these regulations and statutes should be reviewed to be sure that the paperwork burden is "reasonable" and does not provide conflict with existing state work.

Although the majority of regulations were in the social and the health area, concerns were raised by the states with procurement, water quality standards, national pollution discharge elimination systems, state implementation plans for The Clean Air Act, hazardous waste management, the Davis-Bacon prevailing wage components, the Fair Labor Standards Act regarding minimum and overtime wage provisions, and many others. In the area of international trade, they were concerned by anti-boycott regulations, application of anti-trust laws to overseas activity, foreign corrupt practices, export licensing, fiscal and tax policies.

The governors' views on international trade are fascinating. They perceive that the principal immediate barriers are federal rule governing behavior of Americans and their organizations abroad, along with monetary and fiscal incentives that the government provides for competition. These perceptions are not immediately transportation-related barriers and bottlenecks, although they could apply. The governors' philosophy is best expressed by its own definition of what its role in trade is:[23]

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[23] Ibid., p. 103.

State governments are playing an increasingly aggressive role in promoting exports to benefit their economies. State expenditures in 1980 represent a fourfold increase over 1976 budget allocations. Collectively, the annual states' budget for export promotion is now nearly the same as that committed to promotion by the U.S. Department of Commerce. Thirty-four states now have a total of seventy-two overseas offices located in most areas of the world. A large majority of states have developed a range of trade and investment programs paralleling those of the federal government. In view of the decline in the domestic economy and the U.S. trade deficit in seven of the last ten years, it is of critical importance that federal laws which seek to regulate international trade do not, in fact, act as disincentives to that trade. The states have an enormous stake in ensuring that U.S. actions do not act as barriers to expanding our export posture. (emphasis added)

The states have developed for international trade a series of observations that are most relevant and they apply to not just their initial concerns such as anti-trust laws, anti-boycott regulations and foreign corrupt practices, export licensing, fiscal and tax policies, and human rights standards. They apply to the regulatory and export support process at the federal level. Specifically, four points are made.[24]

--Commerce, including export trade, by U.S. citizens should be impaired by the federal government only when the national benefits derived clearly exceed the total costs of impairment absorbed by the government and private sector.

--Laws and regulations promoting and constraining international trade should be designed to reflect differences in enterprise size, import and export experience, industry type, and product destinations in order to minimize the costs and maximize the benefits of such laws and regulations absorbed by the private sector.

--Multi-agency decision-making regarding the structure and implementation of international trade constraints and export promotion efforts should be as efficient in terms of time, costs, and benefits as a single agency decision-making alternative.

--States should be given full access to and, where appropriate, full participation in the federal decision-making and implementation processes

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[24] Ibid., p. 103.

controlling international trade restraint and trade promotion programs when such processes signficantly affect state interests.

The governors further went on to note that in the transportation sector and clean water aspects section 404 of the Clean Water Act requires change. They felt the current process for dredging and discharge of dredge and fill materials in navigable waters process was too open ended and long, and did not provide a definite time period for review and action. They proposed modification so that a "commenting" of a thirty day maximum would be set and "strictly enforced." They further proposed consolidating the public hearing process.[25]

Cities share many of the concerns expressed by the governors.[26] They further stress the need for the "movement of goods safely, conveniently, and efficiently, with economy and speed within and between urban areas." The nation's transportation system should have equity, cost-effectiveness, comprehensiveness, flexibility, coordination, local preeminence, and reliance on the marketplace. Reviewing many transportation and urban-related policies, some key areas are also singled out: finance, infrastructure condition, motor carriers weight and size limits, regulation of the motor carrier industry, freight rail service, rail regulatory reform, and waterways. Generally, deregulation was supported. User fees for waterways were also supported.

With these ideas in mind, there are several ways that government, particularly federal, can disinvolve and deregulate. Potential benefits of deregulation include reducing the number of regulations, easing standards of compliance, increasing ease and timeliness of compliance, reducing cost of compliance and arbitrariness of standards, and reducing federal intrusiveness. Approaches to deregulation are: terminating federal regulations, merging programs or regulations, substituting, outright cutback on enforcement, more program specifics, and lastly, better legislation.[27]

With all the different possible approaches it is interesting to observe further that one quite realistic possibility is--that as the federal role diminishes the states and local governments will pick up their own role. In fact, observations from the private sector suggest this is <u>exactly</u> what has happened. It has made their work more expensive and difficult by trying to understand and deal with the potentially fifty different sets of rules and regulations at the state level, plus numerous local require-

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[25] <u>Ibid.</u>, p.115.

[26] National League of Cities, <u>op. cit.</u>, pp. 63-74.

[27] Bruce D. McDowell, "Effects on States and Local Governments," <u>The Bureaucrat</u> (Summer 1982), p. 22-31.

ments. These numbers in aggregate are certainly going to be an interesting contrast to the one set of rules seemingly required at the federal level. No cost factors have yet been identified to illustrate that particular trade off in the intergovernmental spectrum.

Another approach is to evaluate the potential effectiveness of the regulations and their appropriate costs before being adopted by the Congress and implemented. Under required Regulatory Impact Analysis and Review, issued by President Reagan in Executive Order 12291, February 17, 1981, a set of general requirements was promulgated for new regulations, renewing existing regulations, and developing legislative proposals concerning regulation.[28]

Since the Executive Order, the experience with the requirements has been mixed. Questions about quality, cost, deregulatory impact, and centralized oversight, along with conflicts and independence were identified. The process itself could benefit from standardized guidelines for using waivers and for regulatory impact analysis, and OMB's role should be broader. The quality and sources of data should be identified. In 1981, for example, only twenty-two regulatory impact analyses were prepared for 2,679 regulations reviewed by OMB. The process is indeed fragile and just developing. Some have warned that it should not be subject to misuse as a device to help serve objectives without substantiation. The caution is well taken. "If regulatory analyses are pushed beyond the limits of data and methodology they are unlikely to serve the objectives of more rational and substantiated regulation. The purposes of regulatory analysis will be undermined if used to rationalize pre-selected actions."[29]

All in all, the new attention upon regulation in the intergovernmental spectrum is beneficial. It has created substantial literature and has directed attention from the specific performance of individual cases to the broadest of philosophy regarding the purpose of regulation. It may be useful here to review some of the philosophical elements to why regulations in the intergovernmental spectrum exist. In this sense, regulation is more often addressing the actual regulatory agencies, such as the Interstate Commerce Commission. By extension though, the general thoughts can be applied to the whole spectrum of laws that help guide federal, state, local, and private sector conduct.

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[28] U. S. General Accounting Office, Improved Quality, Adequate Resources, and Consistent Oversight Needed if Regulatory Analysis is to Help Control Costs of Regulation (Washington, D.C.: U.S. Government Printing Office, GAO/PAD-83-6, November 2, 1982), pp.1-9, and pp. 76-81.

[29] Ibid., pp. 76-81.

Within the free market regulation is designed to be an interventionist approach of government.[30] There are specific reasons for its existence and the variety of techniques, of which regulation is one do help reach to obtain the goals and purposes of public policy. The government may have economic performance goals which affect employment and efficiency, prices, costs and profits, the quality of products, and social performance goals. The regulations help provide a certain amount of equilibrium between totally unfettered free enterprise marketplace and one government intervention in the market include efficiency, anti-trust (in cases where competition is prevented by cooperation or outright monopoly), coordination regulation and promotional regulation. These efficiency-type reasons represent one aspect. Another is the externalities. Whether positive or negative such externalities do influence public and private operation in the marketplace and are a reason for regulation. The extent of government intervention here is a function of "where do we draw the line between public and private goods?" Lastly, equity is an aspect of reasons for regulation. In this regard, equity has principally been defined in terms of social and economic equity.

Given these broad concepts briefly put here, the field can be further divided into regulation of the traditional sort which governs the rates of entry, regulation of competitive practices, and the "new" regulation--products and processes.[31] The traditional regulation is illustrated by electric utilities, the Federal Maritime Commission and the Civil Aeronautics Board. The competitive practice regulation is illustrated by the anti-trust division of the Department of Justice and the Federal Trade Commission. The new regulation is illustrated by the Food and Drug Administration, Occupational Safety and Health Administration, Environmental Protection Agency, and Office for Civil Rights. There are more to be sure, however, these principal examples highlighted are quite representative of the broad spectrum, especially of the points made in the Advisory Commission on Intergovernmental Relations charts about the growth of the federal regulatory role.

Such broad activities can often result in strange conflicts or unanticipated consequences. In 1980 agencies were attempting one policy while others in the federal government were employing offsetting policies. A classic example is the Energy Department attempting to hold coal rail rates at low levels while the

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[30] Helen Stone, Regulation and Its Alternatives (Washington, D.C.: Congressional Quarterly Press, 1982).

[31] See James Q. Wilson, Ed., The Politics of Regulation (Basic Books, New York, 1980).

Department of Transportation attempted to keep them high to aid the railroads' revenue picture.[32]

There is indication that government intervention through presence and regulation has received mixed judgements about its impact. Some recent studies about productivity in the corporate sector have developed unsettling observations. One study indicates that "at last managers are admitting, 'we have met the enemy and they is us'." In a survey attempting to identify the single most important reason for America's declining productivity, management ineffectivenesss and short-term result orientation were cited as the leading cause, thirty percent apiece; dropping quickly down to fourth place is the belief that only seven percent feel government and business have an adversary relationship and at six percent inadequate tax incentives for saving and investment. The influence of government regulation is at the fifth percentile. These were the results from a survey of 195 companies between June, 1980 and May, 1982 within 36 different industries. Thirty-seven percent of the companies were Fortune 500. These 236 top managers representing their companies were quite candid.[33]

Yet, sixty-one percent of Americans believe "our government regulations make it too difficult for American companies to compete." This was the third most cited reason, after "labor costs are cheaper in foreign countries" and "U.S. business management is old-fashioned." The results are from polls in May, 1983.[34]

There is a continuing dialogue about the status of the government's pervasive influence and what should be done about it. Various experts note that government even at its best is unable to accomplish its social goals through regulation, whether it be in the transportation sector or health sector.[35] Others say as well that even the effort of decontrol is well intended but having difficulties. This should not be a surprise, that is, it is not unexpected, but the first major concerns are growing evident in the professional-corporate establishment.[36]

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[32] Douglas F. Greer, Business, Government and Society (NY: McMillian Publishing, 1983). See also: Martha V. Gottron, Editor, Regulation, Process and Politics (Washington, D.C.: Congressional Quarterly Press, 1982).

[33] Arnold S. Judson, "The Awkward Truth About Productivity" Harvard Business Review (September-October, 1982), pp. 93-97.

[34] Tom Redburn and Sam Jameson, "Japan Inc. Takes a Back Seat as Entrepreneurs Drive Economy Ahead," Los Angeles Times (May 24, 1983), pt. v, p.1.

[35] Milton Friedman, "Laws that Do Harm", Newsweek (October 25, 1982), p.111.

[36] Bill Sing, "Decontrol: Doubts Grow Amid Gains," Los Angeles Times (February 13, 1983), p.1, 24-26; Bill Sing, "Decontrol Backers Criticize Quick Promises, Slow Pace," Los Angeles Times (February 14, 1983), p.1,12,13.

The Advisory Commission on Intergovernmental Relations has recently developed recommendations that are quite specific and comprehensive. It noted the federal government has thirty-seven major laws that extensively regulate state and local governments. These laws are in the form of: direct orders backed by penalties; cross-cutting requirements applying to many or all federal assistance programs; partial preemptions, putting federal standards over others, locals; crossover sanctions, threatening the loss of aid.[37]

The Commission recommended that for many of these cross-cutting laws Congress pay for the cost imposed upon state and local governments. (refer back to IV-3)

Conclusion

In summary, the steps taken by the Administration, recommendations from groups in the private and public sector, and state and local governments definitely have moved debate to an effective level for issue identification. General recommendations that also apply to transportation concerns are:[38]

> Reforming the Newer Regulatory Forms. For aid-associated requirements: 1. repeal of existing crossover sanctions (e.g., confining fund withholding under the Clean Air Act to air pollution aid funds); and 2. review of cross-cutting requirements, repealing or modifying some and assigning each one retained to a "lead agency" for the development of standardized boilerplate for use by all granting agencies.
>
> Improving the Effectiveness and Equity of Partial Preemption Programs: 1. national specification of broad goals, with states responsible for selecting most appropriate methods; 2. authorizing early state-local participation in developing legislation, standards and regulations, including joint standard setting; 3. adequate notice ofavailable federal aid to help meet program costs; 4. authorizing states to choose direct federal administration and financing without incurring any other legal or fiscal penalty; and 5. where uniform national standards and enforcement are necessary, using total rather than partial preemption (e.g., air pollution control) but allowing federal use of state machinery on a contract basis if both the federal and individual state governments desire to do so.

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[37] John Herbers, "Agency Citing Confusion Urges Change in State Federal Relations," New York Times (April 26, 1983). Howard Kurtz, "Panel Wants Uncles Sam to Start Footing the Bill for New Regulations," Washington Post (May 4, 1983).

[38] William G. Coleman, "Intergovernmental Deregulation," National Civic Review (January 1983, Vol. 72), p. 33-34.

Chapter V

DEREGULATION

Introduction

Deregulation has had a tremendous impact on the transportation industry. Up to this point it has been quite difficult to follow and much of the industry has been in turmoil. It has significant and evolving impacts on the modes of transportation that concern export--trucking, railroads, barges, and their intermodal operations. Further, it has important relationships to shippers and carriers for the rate structure, levels of service, costing and competitiveness. Some of the export shippers and producers most affected are the coal and the agricultural sectors. In general, shippers, freight forwarders and brokers feel these impacts on a day-to-day basis. They must find the best transport arrangements and secure them for as long a period as possible. The whole situation is further compounded by the turmoil in the world economy. The following sections will attempt to capture the fast moving changes, identify issues and concerns from diverse materials and first hand observations of managers.

Deregulation Statutes

The structure of public policy regulating interstate transportation underwent fundamental shifts in 1980. In the case of railroads, almost one hundred years of incremental expansion of the federal regulatory role was frozen and reversed. Motor carriers experienced a similar transformation. Although the movement towards deregulation--that is, disinvolvement of the federal government from private sector intervention--was called for by many interests in the previous decade, the environment for public policy formulation made July to October, 1980 a memorable legislative period. The Motor Carrier Act of 1980 (Public Law 96-296) was passed by the Senate on April 15, by the House on June 19-20, and signed by the President on July 1, 1980. The Staggers Rail Act of 1980 (Public Law 96-448) was passed by the Senate on April 1-3, by the House on September 9, and signed by the President on October 14, 1980.

Both acts share a common philosophy designed to untangle the complex web of regulations, institutional relationships, and policies. The legislative findings section of each law illustrates basic concerns, utilizing fairly strong language:[1]

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[1]PL 96-296, 94 STAT. 793-794; PL 96-448, 94 STAT. 1896-1897.

Motor Carrier Act:

Sec. 3 (a):

* The Congress hereby finds that a safe, sound, competitive, and fuel efficient motor carrier system is vital to the maintenance of a strong national economy and a strong national defense;
* that the statutes governing Federal regulation of the motor carrier industry are outdated and must be revised to reflect the transportation needs and realities of the 1980s;
* that historically the existing regulatory structure has tended in certain circumstances to inhibit market entry, carrier growth, maximum utilization of equipment and energy resources, and opportunities for minorities and others to enter the trucking industry;
* that protective regulation has resulted in some operating inefficiencies and some anticompetitive pricing;
* that in order to reduce the uncertainty felt by the Nation's transportation industry, the Interstate Commerce Commission should be given explicit direction for regulation of the motor carrier industry and well-defined parameters within which it may act pursuant to congressional policy;
* that the Interstate Commerce Commission should not attempt to go beyond the powers vested in it by the Interstate Commerce Act and other legislation enacted by Congress;
* and that legislative and resulting changes should be implemented with the least amount of disruption to the transportation system consistent with the scope of the reforms enacted.

Staggers Rail Act:

Sec. 2: The Congress hereby finds that--

* (1) historically, railroads were the essential factor in the national transportation system;
* (2) the enactment of the Interstate Commerce Act was essential to prevent an abuse of monopoly power by railroads and to establish and maintain a national railroad network;
* (3) today, most transportation within the United States is competitive;
* (4) many of the Government regulations affecting railroads have become unnecessary and inefficient;
* (5) nearly two-thirds of the Nation's intercity freight is transported by modes of transportation other than railroads;
* (6) earnings by the railroad industry are the lowest of any transportation mode and are

insufficient to generate funds for necessary capital improvements;

* (7) by 1985, there will be a capital shortfall within the railroad industry of between $16,000,000,000 and $20,000,000,000;
* (8) failure to achieve increased earnings within the railroad industry will result in either further deterioration of the rail system or the necessity for additional Federal subsidy; and
* (9) modernization of economic regulation for the railroad industry with a greater reliance on the marketplace is essential in order to achieve maximum utilization of railroads to save energy and combat inflation.

The wide sweeping changes embodied in both laws[2] are still being understood and implemented by all parties. Their full effects are not known yet.

The Motor Carrier Act affected the following activities:

1. Common Motor Carrier:
   * eases entry in the motor carrier market and limits protests against applicants with contestants bearing burden of proof;
   * permits zone of rate freedom--raising or reducing rates by ten percent without fear of ICC suspension;
   * stipulates that ICC may require joint rates and through rates;
   * allows more exemptions in commodity transport and services, such as ex-air traffic, used pallets, empty containers, livestock and poultry feed, and mixing of exempt and regulated commodities in the same vehicle.

2. Contract Motor Carrier:
   * limits protests against permit applications;
   * allows carriers to engage in common carrier service; and
   * removes limits on geographic coverage and the number of shippers that can be contracted.

3. Freight Forwarder:
   * permits freight forwarders to enter into contracts with railroads;
   * permits zone of rate freedom--raising or reducing rates by ten percent without ICC suspension; and

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[2]Tom McCarthy, "Transport (De)Regulation Report--Shipper Choices 1981," Traffic Management Magazine (Special Report, 1981), pp. 1-5.

* permits use of contract carriers.

4. Exempt Transport:
   * transportation of used pallets, empty containers, intermodal cargo containers and other shipping devices;
   * transportation in interstate commerce within municipalities and commercial zones; and
   * trucking of agricultural commodities, fish, livestock, feed, seed, and plants.

The Staggers Rail Act affected the following railroad activities:

* provides greater rate freedom with fewer restraints;
* reduces involvement in management affairs;
* codifies long term contracting for rates, services, and related conditions;
* exempts piggyback and container-on-flatcar services from regulations (indirectly, through new ICC authority);
* permits the ICC to deregulate various types of rail transport under certain conditions;
* eliminates the discriminatory provisions for contracts, surcharges, route cancellations, or separate rates for distinct services.

The legislation for trucking and railroads does not really address the export component of interstate land transportion. By extension though, their collective provisions affect the export transportation chain from point-of-origin to seaport. If the more open competitive marketplace benefits general interstate commerce, similar benefits should spill over to the export component in terms of better service and lower costs.

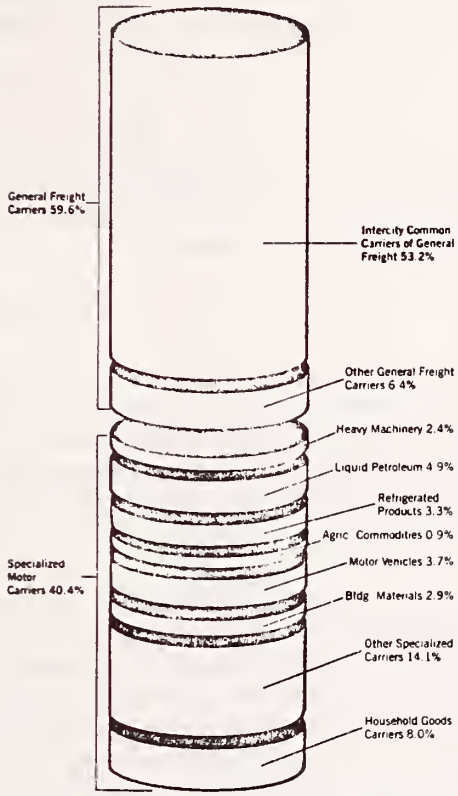
The following sections discuss how the motor carrier and rail industries have fared during the period from the late 1970s to the present. Emphasis is placed upon the regulatory context and resulting impacts.

Motor Carrier Freight Industry and Highways

The trucking industry has gone through considerable financial change since the late 1970s. The latest data available for 1981 show the revenue of the general freight carriers and specialized motor carriers. Figure V-1 shows the distribution. As noted by many observers it is "an industry struggling not only with regulatory changes but also with a weak

Figure V-1

Distribution of Revenues
by Type of Carrier—1981*



*Excludes revenues of United Parcel Services which totaled $4.6 billion.

Source: 1981 F&OS Motor Carrier Annual Report

Figure V-2

Results of Operations—1981 vs. 1980 of Class I Federally Regulated Motor Carriers of Property[1]

Number of Carriers	(Percent changes in Operating Revenues and Other Financial & Operating Statistics)	Operating Revenues	Total Operating Expenses	Interest Expense	Income[2] Taxes	Net[2] Income	Total Vehicle Miles	Total Tons of Revenue Freight
480	US. Total	8.0	9.1	3.9	(7.3)	(13.6)	1.2	(2.9)
209	General Freight Total	7.6	9.1	5.1	(14.4)	(22.9)	0.1	(2.9)
253	Carriers of Specialized Commodities (Except Household Goods)—Total	8.7	9.3	2.3	1.0	(1.6)	1.9	(3.1)
18	Heavy Machinery	7.3	8.0	32.7	(22.8)	(1.6)	2.6	(1.1)
42	Liquid Petroleum	1.6	3.0	3.0	(25.9)	(25.3)	(7.7)	(7.7)
29	Refrigerated Products	8.2	10.0	0.0	(33.9)	(29.6)	2.5	(0.2)
7	Agricultural Commodities	9.4	8.0	(15.7)	105.3	81.3	1.0	(0.4)
15	Motor Vehicles	18.3	15.2	(19.1)	N.A.[3]	N.A.[3]	9.5	5.0
21	Building Materials	16.9	18.3	6.7	(17.8)	(22.3)	12.3	4.7
121	Other Specialized Carriers	9.1	9.6	4.4	8.2	(3.8)	2.3	(2.0)
18	Household Goods Carriers	8.0	8.4	3.3	22.9	19.4	4.2	7.6

Note: Parenthesis indicates decrease.
[1] Excludes results of United Parcel Services.
[2] Excludes write off of operating authorities.
[3] N.A. = Not Applicable. Percentage changes are not applicable due to tax credits or net losses.
Source: Financial and Operating Statistics Full Year 1981-80; Based on Quarterly Reports (Form QFR) to the ICC

Source: Patricia Lisciandro, Financial Analysis of the Motor Carrier Industry -- 1982 (New York: Chase Manhattan Bank/American Trucking Assoc., 1983), pp. 5 and 7. Reprinted with permission.

economic environment.[3] The environment was stressful. General freight tonnage dropped compared to 1980 by 1.5% and mileage up 1.3%. "The average load factor was down 1.3%" and commodity companies were similarly faced. Net income dropped for the general freight carriers group by 33%. See Figure V-2.

According to the American Trucking Association, "nearly 200 carriers have closed their door during the past two years and about fifty more are experiencing financial difficulties." This affects "some $2 billion in revenue and over 40,000 employees. And even worse, general commodity common carrier trucking has lost 35% of its 1978 tonnage levels."[4]

In this rough and tumble arena several key elements changed.[5]

First, is ease of entry. The Motor Carrier Act of 1980 made it possible for more firms to compete in various ways. For example, there were 17,000 regulated common and contract carriers in 1979; by 1982 there were 23,000 and most of these are in the smaller contract routes.

Second, there has been a change in the labor environment. The new agreement, effective March 1, 1982 with the International Brotherhood of Teamsters and Trucking management froze "the basic wage level of truck drivers and warehouse workers for at least two years." It can be reopened after two years if conditions in the industry improve (or if they deteriorate further). Other changes, included retaining the cost of living wage increase schedule of the earlier contract, however, it will be payable only once a year on April instead of semi-annually. Additional adjustments will be granted toward health and welfare and pension plans along with some work rule changes. In comparison, the 1982 contract contained estimated wage increases of "about 21% from the current $13.26 per hour. However there were 700 contract carriers signatories in 1979, and only 250 carriers in 1982. Due to the economy, recession and deregulation, "25% of the teamsters are out of jobs."

Third, there have been changes in the freight-rate structure. There has been a proliferation of discount plans and intense competition due to the excess capacity and liberalized entry rules in this period. "Carriers in dire financial condition went from the rifle approach to the shotgun in an

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[3]Patricia Lisciandro, Financial Analysis of the Motor Carrier Industry--1982 (New York: Chase Manhattan Bank/American Trucking Association, 1983), pp. 5-8; see also: Regular Common Carrier Conference/American Trucking Association, Trucking Deregulation/Economic Recession Facts! (Washington, D.C.: Regular Common Carrier Conference, 1983).

[4]Ibid., p. 40. [5]Ibid., pp. 44-48.

effort to stay alive." And, "today, such discounts affect about 5% of the carriers' gross revenues. Some carriers have resisted a no-cost related pricing policy by working closely with their shippers and establishing rate programs designed to share economies generated through shipper cooperation on the handling and transportation of their freight." The excess industry capacity may reach as much as twenty percent.

Fourth, is an issue regarding truck size and weight laws. Interstate highways had permitted eighty thousand pounds gross as a vehicle maximum weight and three states, called the "barriers states"--Illinois, Missouri, and Arkansas, did not adopt the higher vehicle limits. In effect, such a barrier did hurt East-West traffic considerably. Another barrier was the tractor-trailer combination length restrictions. "All but 15 states (mostly in the East and the South) and the District of Columbia have permitted operation of 65-foot twin trailer combinations (units with two 27- or 28- foot trailers)." Double trailering permits twenty-three percent greater cubic capacity in contrast to a standard semi-trailer of forty-five feet. This situation was addressed by subsequent federal legislation.

Fifth, the shipper has been demonstrating increasing sophistication. In this more competitive environment shippers are directing more attention to finding the best service rates and performance. Earlier when the industry was very stable and shippers could rely upon just several possibilities for different shipping needs, they did not asign high priority to arranging the best possible package, monitoring and staying on top of the industry. Drastically changed, the organizations are now devoting more resources and higher management staff to the activity.

Deregulation and the combined effects of the economy as noted above have had strong effects. Some, however, note that deregulation has not gone far enough and can still be improved.[6] At the same time that the Motor Carrier Act of 1980 took effect, Florida totally deregulated its trucking and busing (July 1, 1983). Since then, nationally and within Florida, interesting changes have occurred. For example, the number of independent rate proposals at the major rate bureaus has increased. The increase from 1980 to 1981 was about ninety percent and some "individual bureau proposals increased as much as 1,442%." There is real indication that Florida's total deregulation rates have dropped in nominal and real terms. An ICC study suggests service has improved for small communities for both receivers and senders of freight. Also, reflecting the liberalized freight regulations there has been significant increase in the number of applications

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[6]Robert E. Mabley and Walter D. Strack, "Deregulation--a Green Light for Trucking Efficiency," American Enterprise Institute Journal on Government and Society (July/August, 1982), pp. 36-42 and 56.

for operating authority. In summary, these observers believe that the Florida model of total deregulation should be allowed to occur as appropriate for the whole nation.

Preliminary studies comparing trucking deregulation with prior regulatory practice find that the trucking industry is not only performing better for its shippers, but also "since the onset of liberalized policies toward motor carrier regulation...results of such policies thus far have not been as negative for the carriers as suspected by many and have generally been positive for shippers."[7]

Another major indication of the difficulty for freight managers under the deregulated environment is the sheer volume of information and growth in service-oriented computer programs.[8] More and more advertisements in magazines are showing the computer and consulting services available for this function. Many are tending towards the belief that such rate and service "anarchy" may well lead to reestablishment of some uniform system, if for no other reason than for shipper convenience and demands. Different observers speculate that a private group may ultimately organize all the rates in the country, or in particular service areas, and put them on data base. For a fee they would be available. This may be similar to the airline route and fare schedule information computer systems subscribed to by travel agents.

With the Florida example perhaps in mind, there is increasing pressure by the trucking industry and the Interstate Commerce Commission to deregulate the industry completely. Legislation is being prepared by the Department of Transportation. Some parts of the industry felt that it left them with "an impossible competitive situation"--"our rates are there for all to see." Others looked forward to it and felt the industry should get together with a common position and accept it quickly. The concerns about the small shipper will be taken care of easily by the marketplace.[9]

The fluid trucking industry situation has now had additional game rules established for it. On January 6, 1983 the Surface Transportation Assistance Act of 1982 was signed by the

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[7]Donald V. Harper, "Consequences of Reform of Federal Economic Regulation of the Motor Trucking Industry," Transportation Journal (Summer 1982), pp. 35-58.

[8]"Motor Carrier Cost Finding for the Distribution Manager," Chilton's Distribution (June 1982), pp. 58-59.

[9]"The Last Roadblock to Decontrol of Trucking," Business Week (May 23, 1983), pp. 47, 51.

President.[10] The act attempted to respond to many needs for transportation improvements, operating conditions and other transportation facilities (e.g., mass transportation). Through fiscal years 1986 additional sums of $4 billion per year were authorized for appropriation for the Interstate Highway System. The act stressed the resurfacing of the Interstate System (Section 106), energy impacted roads (Section 109)--specifically,

> state highway departments may give priority to projects for the reconstruction, resurfacing, restoration, or rehabilitation of highways that are encurring a substantial use as a result of transportation activities to meet national energy requirements and which will continue to incur such use...

This is particularly important for those areas carrying heavy coal traffic. It further stresses highway bridge replacement and rehabilitation (Section 122) and vehicle weight, length and width limitations (Section 133). The act made possible the large infrastructure study to be done by the House Committee on Public Works and Transportation. The National Public Works Iventory and Assessment is to catalog and organize all the needs in the nation.

To fund all these changes the tax structure for motor vehicle fuels was changed. The rate was increased from four cents a gallon to nine cents a gallon for gasoline, diesel fuel and special motor fuels (Section 511). Interestingly, there were some exemptions for the tax: light duty trucks and trailers under thirty-three thousand gross vehicle pounds, taxes on parts and accessories, and on trucks, and, exemption of rail trailers and vans designed for both use as a highway vehicle and as a railway car (Section 512). On the other hand, heavy trucks and trailers over thirty-three thousand pounds gross vehicle weight were to be taxed at a rate of twelve percent upon retail sale (Section 4051).

In summary, the legislation allowed eighty thousand pound gross vehicle weights on the Interstate System and twin trailers to operate in all states. One hundred and two inch width limits were permitted.

Many--especially state officials--criticize the federal gas tax, "for preempting a needed source of state revenues, for misallocating funds, and for regulating state decision making in a manner contrary to the objectives of new federalism."[11]

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[10] Surface Transportation Assistance Act of 1982 (PL-97-424), 96 STAT 2097.

[11] Timothy J. Conlan and David B. Walker, "Reagan's New Federalism: Design, Debate and Discord," Intergovernmental Perspective (Washington, D.C.: U.S. Government Printing Office, Advisory Commission on Intergovernmental Relations, Winter 1983), p. 32.

Trucking deregulation at the federal level has moved rapidly forward. Legislation currently under development may even more dramatically change the status of the industry. At the state level three states have completely eliminated economic regulation of motor carriers--Arizona (July 1, 1982), Florida (July 1, 1980), and Maine (January 1, 1982)--and 23 states have passed reform legislation or have actively considered such legislation; seven are considering but have not passed reform legislation; five are studying regulatory reform; and 12 states had no ostensible regulatory reform activity during 1981. For a detailed comparison of existing states, see Table V-1.

Note also that regulations vary tremendously. In one area alone the problem can be clearly illustrated by two examples. Permitting requirements (Table V-2) for tractors and trailers add up to 175 and 15, respectively.

1. To get authority to transport exempt commodities in 34 states, a trucker must complete 198 distinct forms to begin operation. This does not take into account any third structure taxes, insurance certification or continuous filings for fuel tax reporting.

2. A household goods carrier noted that to legalize one typical tractor and trailer operation in 48 states for one year required filing all applications and permits listed in Table V-1 and writing 76 checks. In addition, 290 fuel tax, third-structure tax and miscellaneous mileage-based reports must be completed for 42 states involving 32 different formulas and 48 different forms. If the tractor were driven 100,000 miles during the year the company would process approximately 300 log, mileage and fuel records and 285 fuel receipts. The fuel accounting requires a detailed audit as there are 34 sets of requirements in the 38 states with fuel tax reporting laws.

In general then, there are numerous, diverse requirements by the states for motor carrier operation. These include vehicle registration, payment of fuel taxes and registration of interstate operating authority. The federal study developed a variety of options and recommendations regarding each of these areas. They ranged from voluntary activities to increased federal role, including standards and guidelines. Whatever is ultimately chosen it must take into account that the states in the last five decades have not voluntarily developed much uniformity. Progress can be made on this front, but it brings up a constitutional and philosophical question--what role shall the federal government play? An illustration of the intensity of the gas tax issue was seen when some states rebelled against the expanded capacity, and length and width sizes allowed for the interstate trucking

APPENDIX G

Comparison of State regulation with post-1980 Federal regulation

MAJOR REGULATORY PROVISIONS	FEDERAL	CALIFORNIA	COLORADO	GEORGIA	ILLINOIS	IOWA	KANSAS	MASSACHUSETTS	NEW YORK	NORTH CAROLINA	OHIO	TEXAS	WASHINGTON
1 Burden of proof in application cases[1]	Applicant presents prima facie case burden shifts to protestant	Fully on applicant	Fully on applicant	Fully on applicant	Fully on applicant	Fully upon applicant	Fully upon applicant	Fully on applicant	Currently, fully on applicant but proposed statutory amendment similar to Federal provision	Fully upon applicant	Fully upon applicant	Fully upon applicant	Currently, fully upon applicant but considering adopting Federal provision administratively
2. Conditions imposed on protestants[2]	Specific statutory prerequisites	None	None for common carriers Contract carriers rarely permitted to protest	None	None	None	None	None	Currently, none but proposed statutory amendment similar to Federal provision	None	None	None	None
3 Removal of restrictions from certificates[3]	Specific statutory requirements	None	None	None	None	None	None	None	Restrictions removed administratively during past 6 years	None	None	None	None
4 Intercorporate Hauling[4]	Exempts wholly owned subsidiaries	Pending rulemaking would adopt Federal provision	No provision	No provision	No provision	No provision	No provision	No provision	No provision	No provision	No provision	No provision	No provision
5 Fitness Test only for designated services[5]	Specific statutory designations	No provision	No provision	No provision	No provision	No provision	No provision	No provision	Currently, no provision but amendment would include household goods movers and messenger services	No provision	No provision	No provision	No provision
6 Notice period for rate changes[6]	30 days for increase or decrease—Waive, available	Same as Federal	Same as Federal	Same as Federal	Same as Federal	Same as Federal	Same as Federal	Same as Federal	Same as Federal	Same as Federal	Same as Federal	7 to 10 days following approval by Texas Railroad Commission	Same as Federal
Rate Bureau Immunity[7]	Specific statutory provisions	Permits broad Immunity but under investigation by State Agency	No immunity—State Agency prescribes all rates	Recently enacted broad immunity for collective ratemaking	Permits broad immunity for collective ratemaking *	No specific State statutory provision but rate bureau filings accepted	No specific State statutory provision but rate bureau filings accepted	No immunity	Currently permits broad immunity but proposed amendment would narrow rate bureau immunity	Permits broad immunity for collective ratemaking	No immunity	Recently enacted broad immunity for collective ratemaking	No specific State statutory immunity but rate bureau filings accepted
8. Zone of Rate Freedom[8]	10 percent zone on both sides of base rate	No provision	No provision	No provision	No provision	No provision	No provision	No provision	Currently none but 10% zone permitted under proposed amendment	No provision	No provision	No provision	No provision
9 Pooling[9]	If permission granted by ICC	No provision	No provision	No provision	No provision	No provision	No statutory provision but permitted by State Agency	No provision	Prohibited by statute	No provision	No provision	No provision	No provision
10 Special rates for reduced liability[10]	Specifically allowed by statute	None	None	Allowed	Allowed but under formal proceeding	None	Prohibited	Prohibited	Prohibited by statute	None	None	None for common carriers—Allowed for contract carriers	Allowed
11 Reparations[11]	No provision	Allowed	Allowed	Allowed	Allowed	Allowed	No provision	No provision	Allowed	Allowed	No provision	No provision	No provision
12 Assessments[12]	None	Partial assessment	None	None	None	Partial assessment	Full assessment	None	Partial assessment	None	Partial assessment	None	None

FOOTNOTES

[1]Under Section 5 of the Motor Carrier Act of 1980, once applicant has made a prima facie showing that the proposed service would serve a useful public purpose, the burden of proof shifts to protestants to show that the proposed service is inconsistent with the public convenience and necessity (In other words, the new Act creates a presumption that the grant of an application is consistent with the public convenience and necessity.)

[2]Section 5 of the Motor Carrier Act of 1980 provides that no common carrier may protest an application unless the carrier has performed service within the scope of the application during the previous 12-month period or has actively solicited the service within such period, or has pending before the Commission an application for substantially the same traffic

[3]Section 6 of the Motor Carrier Act of 1980 established a schedule and procedure for the removal of various operating restrictions which are contained in motor carriers existing certificates and permits.

[4]Section 9 of the Motor Carrier Act of 1980 allows compensated intercorporate hauling A person may provide for hire transportation to any member of its corporate family—provided the parent owns a 100% interest in each of the subsidiaries

[5]Section 5 of the Motor Carrier Act of 1980 requires a fitness test only for certain types of service. These are transportation to any community not regularly served by a licensed carrier, points where rail service is abandoned, U.S. Government property, shipments under 100 pounds, certain agricultural products, and edible products within certain limitations, when transported by owner-operators.

[6]The notice period for rate changes was undisturbed by the Motor Carrier Act of 1980.

[7]This provision involves a regulatory agency's granting immunity from the antitrust laws so that carriers can collectively set their rates. Section 14 of the Motor Carrier Act of 1980 grants, under very specific and restrictive conditions, immunity from Federal anti-trust laws for the collective setting of interstate rates.

[8]Under Section 11 of the Motor Carrier Act of 1980, interstate carriers may revise their rates up or down 10% annually without regulatory interference.

[9]Under Section 20 of the Motor Carrier Act of 1980, interstate motor carriers may, under certain conditions and subject to ICC approval, "pool or divided traffic(,) . . . services or . . . earnings." They must first file an application with the ICC. The ICC may authorize the arrangement so long as all the carriers involved assent to it and it is in the interest of better service to the public or of economy of operation and does not unduly restrain competition.

[10]Section 12 of the Motor Carrier Act of 1980 provides that, subject to certain restrictions, a motor common carrier may establish rates for the transportation of property (other than household goods) under which the liability of the carrier for such property is limited to a value established by written declaration of the shipper or by written agreement between the carrier and the shipper. The Commission may require that the carrier also maintain a rate for such service which does not limit the liability of the carrier.

[11]Certain states award reparations to motor carriers. New York, for example, may issue keep-account orders and award reparations with interest. The ICC on the other hand has no power to award reparations in motor carrier proceedings.

[12]Some states assess the total cost of operating the state agency against the carriers, subject to its jurisdiction, under an equitable formula. Other states finance their regulatory agencies entirely by means of general state revenues. Some states utilize a partial assessment pattern where carriers are billed for specific regulatory services, such as the cost of hearings, investigations, and tariff filings The state legislature then provides general funds for deficits.

Source: DOT/ICC, Uniform State Regulations Motor Carrier Act of 1980, Section 19 Report to Congress, p. 32.

Table V-1

Table V-2

Permitting Requirements for Operation in 48 States

Tractor Permitting

1 title application and title
1 base plate application, plate, and registration
1 set of ICC required decals
1 set of unit number decals
1 lease agreement with supporting documents

1 payment of Federal Highway Use Tax

6 prorate applications and registrations
1 motor carrier identification plate
2 prorate decals
1 prorate backing plate to display prorate decals
1 reciprocity plate application and registration

40 applications for various State utility commissions
34 stamps issued by these utility commissions
1 Form D application and Form D identification cab card
1 registration issued by a particular State along with their stamp to be placed on the Form D
3 plates and registrations issued by State utility commission
1 Department of transportation registration
1 Lease of Motor Vehicle Department registration
1 PUC door decal and registration

21 applications for fuel permits
12 single fuel door decals
17 fuel registrations
1 set of dual fuel door decals

5 highway use applications
1 HUP plate registration
5 HUP registrations
1 HUP window decal
1 HUP bumper decal

1 permit book to display registrations

Trailer Permitting

1 title application and title
1 base plate application, plate, and registration
1 set of unit number decals

3 prorate aplications
2 prorate registrations
1 prorate decal
1 prorate backing plate to display prorate decal
1 reciprocity plate application and registration

2 highway use applications
1 HUP registration and bumper decal

1 permit box for retaining registrations

Source: Kevin Lewis, prepared statement for the FHWA ICC Uniform State Regulation Public Meeting, (Wash. D.C., Nov. 25, 1980), pp. 3-4.

Source: DOT/ICC Uniform State Regulations Motor Carrier Act of 1980 Section 19 Report to Congress, p.2

Table V-3

COMPARISON OF CURRENT AND NEW USER FEES

USER FEE TYPE	CURRENT RATE	NEW RATE	EFFECTIVE DATE
Gasoline	4¢/gallon	9¢/gallon	April 1, 1983
Diesel	4¢/gallon	9¢/gallon	April 1, 1983
Gasohol	0	4¢/gallon	April 1, 1983
Tires	9.75¢/lb. all tires	0¢/lb. for first 40 lbs 15¢/lb. for next 30 lbs 30¢/lb. for next 20 lbs 50¢/lb. for each lb. over 90 lbs	January 1, 1984
Tread Rubber	5¢/lb	None	January 1, 1984
Inner Tubes	10¢/lb	None	January 1, 1984
Lubricating Oil	6¢/gallon	None	January 7, 1983
Truck Parts	8 percent, all trucks	None	January 7, 1983
Truck Sales	10 percent of mfr.'s wholesale price for trucks & trailers 10,000 lbs GVW	12 percent of retail price on all tractors plus truck chassis and bodies over 33,000 lbs. GVW and 26,000 lbs. for truck trailer and semitrailer chassis and bodies	April 1, 1983
Heavy Vehicle Use Fee	$3/1,000 lbs. GVW for trucks 26,000 lbs. GVW	At least 33,000 lbs. but less than 55,000 lbs. GVW $50 per year, plus $25 for each 1,000 lbs. or fraction thereof in excess of 33,000 lbs. At least 55,000 lbs. but less than 80,000 lbs. G.V.W. $600 per year plus the applicable rate for each 1,000 lbs. or fraction thereof in excess of 55,000 lbs. At least 80,000 lbs. the maximum amount	July 1, 1984

Rate and Maximum Amount

Applicable Rate	Maximum Amount	Beginning July 1
$40	$1,500	1984
$40	$1,600	1985
$44	$1,700	1986
$48	$1,800	1987
$52	$1,900	1988

Gross vehicle weight threshold level increased on January 7, 1983
Refund for vehicles travelling less than 5,000 miles on public highways
Delays by one year effective dates for operators of no more than five vehicles
Contains refund provisions for lost or wrecked vehicles

In the past a copy of TRUCK TAXES BY STATES has been enclosed with this report, due to budgetary considerations, this booklet is not being published this year. When conditions warrant such action, consideration will be given to resuming publication. Those requiring detail of taxes paid in a specific state can obtain this information from the Department of Economics and Taxation, American Trucking Associations.

Source: "Truck Taxes and Highway Finance," Interstate Information Report (Washington, D.C.: American Trucking Association, April 1983), p. 4.

activities.[12]

The current situation has developed because:

1. Vested interests have influenced the adoption and continuation of preferred requirements.
2. The failure of states to revise their tax structures, regulations and laws to correspond to changes in the transportation industry.
3. The need for additional highway revenue is forcing states to raise existing user charges and add new ones.
4. These requirements are not administered by a single department, but in four separate departments: the highway department, motor vehicle administration, the revenue department, and the public utility or service commission.
5. The sheer multiplicity and diversity of the requirements that must be mastered by those operating across state lines stands in marked contrast to that required in intrastate commerce.
6. Inequities in state motor carrier requirements abound.

The study noted certainly that from the state perspective it is hard to imagine how its own operations and needs can influence the national picture. But clearly it does, and adds cost to the process. And, such state laws have a weighted, growing cumulative effect on the motor carrier industry. As a result, the industry has challenged "the use of retaliatory taxes and the imposition of sales and ad valorem taxes on interstate vehicles traversing the state." These are reappearing. "Additionally, many towns, cities and counties are instituting requirements under which carriers are charged a privilege tax to pick up and drop off loads." In contrast to these developments, state public utility commissions have "achieved a significant degree of uniformity with economic regulation of intrastate commerce."[13]

The new legislation thus has thrown upon the trucking industry the following rate structure changes (Table V-3). Other statistics for this time period include also that trucks represented 20.4% of the total motor vehicle registration in the

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[12]U.S. Department of Transportation, Interstate Commerce Commission, Uniform State Regulations--Motor Carrier Act of 1980, Section 19, Report to the Congress (Washington, D.C.: U.S. Government Printing Office, January, 1982), p. 32.

[13]Ibid., pp. 1-11.

country, 33 million out of 161 million. Yet, the trucks paid 41% of the registration fees and 37% of the motor fuel taxes. All in all, the trucking industry paid 39% of the total user taxes. And in 1981 the trucking industry paid 42.1% of total state and federal highway user taxes.[14]

Despite the trucking industry perspective, the new legislation did grant greater operating rights and fewer restrictions for the industry. Several states did not accept this though and challenged it. The Connecticut legislature refused to permit the larger rigs, and other states joined with partial bans: Fourteen other states banned the double trailer combinations from their highways. Most eastern states have restricted these operations because they have older, smaller highway systems unable to carry the loads typically found on newer highways in the west. Essentially, it is an issue of state's rights and some of the states disagreed with the route designations that the U.S. Department of Transportation identified as suitable for carrying them. Virginia, for example, "designated 155 miles, only to have the DOT add 1750 more."[15]

The issue has not been resolved and is currently under study. For the time being, "the designated highways in these states will consist of the interstate and only those sections of the primary highways which were initially submitted by the states."[16]

These activities occur against the larger backdrop that the American public-works infrastructure is out-of-date, deteriorating, and in many cases needs complete overhaul, if not rebuilding. The problem is not limited solely to highways. It affects other parts of the transport system and water, waste and sewage, and flood control--the whole spectrum of public works activities. The highway component was to be studied as required under the Surface Transportation Act of 1982. For all capital investment by state and local governments, the per capita amounts in 1972 constant dollars have declined from a 1968 high of $178.85 dollars to $102.81 per capita in 1981. The current

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[14]"Truck Taxes and Highway Finance," Interstate Information Report (Washington, D.C.: American Trucking Association, April 1983), pp. 1-4.

[15]John McCormick, with Marsha Zabarsky, "Connecticut Fights the Feds," Newsweek (April 18, 1983), p. 33.

[16]U.S. Department of Transportation, Statement by Federal Highway Administrator Ray A. Barnhardt, press release (Washington, D.C.: Department of Transportation, April 19, 1983.) See also: H. Joseph Herbert, "States Told to Accept Big Trucks," Washington Post (April 6, 1983); and Ernest Holsendolph, "Mrs. Dole Stresses Safe Roads over Big Rigs," New York Times (April 26, 1983).

dollars 1981 figure was $54.280 billion. In contrast to 1981, also measured in 1972 dollars, highway expenditures by state and local government were $5.8 billion.[17]

The current federal anticipated-expenditure rate is too low according to the Congressional Budget Office. It believes that state, local and federal governments must spend "additional $11 billion annually between now and 1990 to repair the nation's transportation and water and sewage treatment systems." The federal gas tax increases will help considerably but still not make up the difference. The earliest estimated cost was at $3 trillion.[18]

Yet, others see needs as not so overwhelming. After a survey of 809 cities the National League of Cities and U.S Conference of Mayors concluded "...a steady but manageable investment over a number of years could and would enable communities to start work on the capital assets ranked as highest priorities." The survey included 130 of the 169 biggest cities. Table V-4 shows that the worst conditions are in streets and roads, stormwater collection facilities, along with sidewalks, curbs, and sewage collection. Yet, from top priority by number of cities responding as critical, it is the streets and roads, and stormwater collection, that takes clearly the first two places. Most interesting is the reasoning by the cities in their rankings. Not withstanding the importance of the transport system and export in general, "their first concern is protecting public healtlh and safety...and second is providing essential residential service, and third, facilitating economic development."[19]

The Surface Transportation Act of 1982 required special consideration of energy road infrastructure transportation. There may need to be similar considerations for agricultural road infrastructure. Oddly enough, the increase of unit trains on trunk lines in the midwest for hauling grain has helped eliminate the branch lines, spur their abandonment and put greater stress upon the local road system. The only way for the farmers to get the grain to the market is by truck to the elevators for storage

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[17] U.S., General Accounting Office, Effective Planning and Budgeting Practices Can Help Arrest the Nation's Deteriorating Public Infrastructure (Washington, D.C.: U.S. Government Printing Office, November 18, 1982), pp. 1-15.

[18] Douglas B. Feavers, "Infrastructure Spending called Billions too Low," Washington Post (April 27, 1983); See also Pat Choate and Susan Walter, America in Ruins-The Decaying Infrastructure (Durham, N.C.: Duke Press, 1983).

[19] Rochelle Stanfield, "Public Facilities Needs not Enormous, Cities Report--Urban Affairs," National Journal (April 23, 1983).

Table V-4

Municipal Priorities, from Streets to Hospitals

The table, based on a survey by the National League of Cities and the U.S. Conference of Mayors, lists 19 physical facility needs in order of local priority. The first column shows the number of the 809 cities in the survey that ranked each item among its top three priorities for capital expenditures. The next two columns show the percentage of the 809 cities rating their facilities as good or as needing major repair, rehabilitation or replacement. The final two columns show the percentage of cities that say they can pay to maintain these facilities from their own resources and those that say they need federal or state aid.

		Condition		Financing source	
	Count	Good	Bad	Own	Outside
Streets, roads	518	26%	70%	35%	62%
Stormwater collection	309	24	67	42	48
Wastewater treatment	228	37	35	17	56
Sewage collection	216	36	50	41	44
Public buildings	197	54	43	68	27
Water distribution	152	46	31	58	18
Parks	106	56	35	47	43
Solid waste disposal	104	27	24	33	24
Bridges	100	25	45	14	54
Water treatment	84	51	16	47	19
Sidewalks, curbs	73	25	70	63	31
Community buildings	50	59	24	48	30
Water storage	45	55	19	53	18
Traffic control	40	50	39	50	39
Public schools	32	21	12	14	11
Docks, wharves	16	5	9	5	8
Transit rolling stock	14	20	10	6	24
Transportation facilities	10	17	10	5	23
Public hospitals	7	7	2	6	7

Source: Rochelle Stanfield, "Public Facilities Needs Not Enormous, Cities Report," National Journal (April 23, 1983), p.860.

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and loading on the unit grain trains. "Combined with the growth in interelevator grain transfers by truck, the annual ton miles of rural truck transport of grains in 1980 was nearly double the 1975 level." Certainly, "the increased use of unit trains has percipitated an increase in the ton miles hauled over low-volume roads as well as an increase in the weight per axle and a subsequent increase in rural roads and bridges.[20]

Railroad Transportation

The railroad industry is finding itself in a more liberalized, wide-open competitive environment. In many areas, it is affected by direct competition from trucking, pipelines, or barges.

Despite user fees, the industry still must compete with public sector advantages other modes possess. For example, highway rights-of-way, or maintenance of the river channels for barges are publicly supported, whereas the railroads own and maintain their own rights-of-way. Granted, over a hundred years ago many railroad companies did receive large land holdings from which they now earn non-railroad revenue: but there is no current operating and maintainence public funding.

The railroads also find themselves facing continual stress caused by labor costs and declining freight volume in "smokestack" industrial states. In the last twenty years, Northeastern roads have consolidated into several major public and private systems: The Pennsylvania, New York Central, and New Haven among others, consolidated into the Penn-Central and ultimately into Conrail, owned by the government. At the moment, the employees of Conrail are attempting to purchase the railroad. The railroads in the Southeast have consolidated into two major systems, the CSX system and the Norfolk System. In the Midwest, railroads are on the verge of bankruptcy or have been taken over by employees. The Milwaukee Road is bankrupt and the Chicago and Northwestern is owned by its employees. And other railroads serving the Gulf and the Southwest have consolidated, such as the Illinois Central--Gulf Railroad. The northern tier railways across to the far Northwest have consolidated into the Burlington Northern system for the most part. In the Southwest/Pacific coast there are several strong railroads, the Santa Fe, the Union Pacific and to a lesser extent, the Southern Pacific.

As an industry railroads have expanded their non-railroad assets by real estate development, mineral development, office commercial development in downtown locations and in the port areas.

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[20]Dean Linsenmeyer, "Effect of Unit-Train Grain Shipments on Rural Nebraska Roads" in Design and Upgrading of Surfacing and Other Aspects of Low-Volume Roads (Washington, D.C.: TRB, Transportation Research Record 8-75,1982),pp. 60-64.

Reflecting the freight situations, railroads over the years have invested to put less in the track and rolling stock, particularly the companies having financial difficulties. This definitely has affected service speed and safety. Stronger roads have been able to reinvest more into the physical infrastructure. Railroads have every incentive to improve technology, to lower labor costs and to increase cargo capacity. There are breakthroughs occurring in these areas and they will be discussed later. Those railroads able to emphasize unit train type of cargo may be finding that the increased revenues and efficiencies implicit from their operation may not be accurately or fully recouped over the long term. For example, various studies have demonstrated the impact of the heavier trains on the maintenence of the track and their life-cycle costing. This will drive up significantly, some suggest, the inefficiencies and full costing of the unit train operation.

Another aspect of the unit train operation that will be a concern for pricing is, as the trains must proceed through denser urban areas where there are many grade crossings, operating and public policy difficulties will occur. Local public agencies, responding to concerns or complaints from their citizens, will question the viability of the unit train concept for safety, noise, vibration, dust, and other factors. If funds can be found, grade level crossings will begin to disappear and become bridges, underpasses or overpasses. What this precisely means is that at some point the governments may well, because of their citizens, force the railroad companies along with their unit train shippers to make tough service and funding decisions. Governments probably will not pay for these improved grade crossings. "If railroads want the right to operate unit trains in local jurisdictions, they must pay for the improved facilities." The estimated cost for such facilities in simple locations is minimally one million dollars.

As an industry the railroads have experienced a disturbing 1982.[21] Note how freight traffic trends have declined since 1980 by over 100 billion ton miles and by 3 million carloadings. Table V-5 indicates changes in the commodity flows as well and virtually all major categories have declined. Grain carloadings are down by 6.3%, metallic ores by 48.4%, coal by 1.8%, lumber and forest products by 19-22%. In turn, as revenue carloadings declined, piggyback loadings went up somewhat from 1.7 million to 1.9 million. And for the automotive industry the railroad share increased by three percentage points, as to highways, however, the total number declined by 1.7 million of all vehicles shipped. Commensurately, note how incomes have declined since 1981 in current dollars by $600 million with declines in operating revenues. In other measures the railway working capital has declined, capital expenditures have declined, the retained funds

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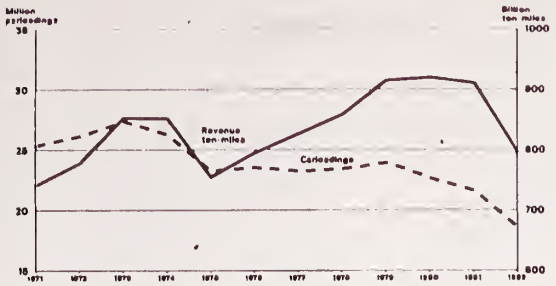
[21] "Freight Railroading in 1982: A Statistical Review," Railway Age (February 1983), pp. 34-41.

Freight railroading in 1982: A statistical review

Freight traffic trends

Class I railroads
1971 - 1982



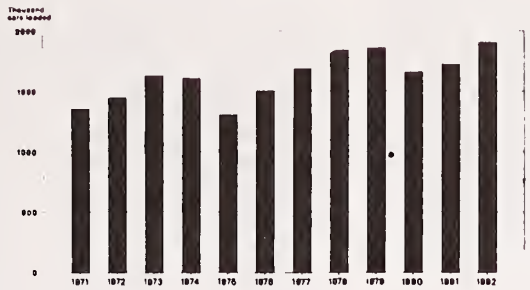
Freight traffic 1971 - 1982

Year	Revenue carloadings (thousands)	Piggyback carloadings (thousands)	Revenue ton-miles (millions)
1971	25,266	1,356	739,743
1972	26,105	1,448	778,746
1973	27,338	1,631	851,809
1974	26,184	1,610	850,961
1975	23,218	1,308	754,252
1976	23,457	1,506	794,059
1977	23,173	1,689	826,292
1978	23,355	1,841	858,105
1979	23,892	1,858	913,669
1980	22,598	1,687	918,621
1981	21,613	1,749	910,169
1982	18,550	1,923	*797,800

* Estimated

Revenue carloadings of

T-O-F-C traffic
Class I railroads
1971 - 1982



Methods of shipping motor vehicles from factories 1971-1982

Year	Vehicles shipped	Highway %	Railroad %
1971	10,638,000	47.5	52.5
1972	11,270,000	47.8	52.2
1973	12,637,000	48.0	52.0
1974	10,058,000	44.8	55.2
1975	8,985,000	46.4	53.6
1976	11,477,000	48.5	51.5
1977	12,639,000	49.3	50.7
1978	12,871,000	47.9	52.1
1979	11,456,000	50.1	49.9
1980	8,067,000	46.8	53.2
1981	7,956,000	43.6	56.4
1982 (9 mos.)	6,228,000	40.0	60.0

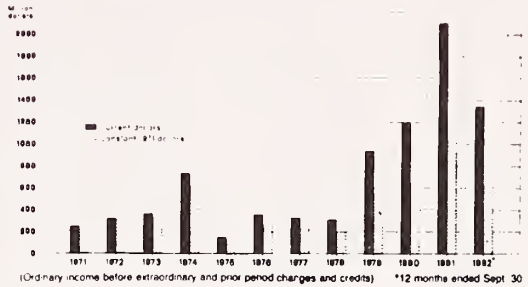
Source: Motor Vehicle Manufacturers Association of the United States, except columns 2 and 3 for 1982 estimated by AAR

Carloadings by commodities: 1982 vs. 1981

	1982 Cars	1981 Cars		Incr./Decr. 1982 vs. 1981 Cars	Percent
Grain	1,267,056	1,352,406	D	85,350	6.3
Other farm products	216,924	222,383	D	5,459	2.5
Metallic ores	823,647	1,606,558	D	782,911	48.7
Coal	5,659,783	5,762,265	D	102,482	1.8
Crushed stone, gravel and sand	468,068	619,994	D	151,926	24.5
Nonmetallic minerals	503,086	674,793	D	171,707	25.4
Grain mill products	619,969	737,854	D	117,885	16.0
Food and kindred products	681,511	784,569	D	103,058	13.1
Primary forest products	756,743	938,611	D	181,868	19.4
Lumber and wood products except furniture	305,489	395,588	D	90,099	22.8
Pulp, paper and allied products	327,698	991,496	D	163,798	16.5
Chemicals and allied products	1,116,051	1,332,863	D	216,812	16.3
Petroleum products	243,113	268,582	D	25,469	9.5
Stone, clay and glass products	509,287	690,367	D	181,080	26.2
Coke	232,669	330,465	D	97,796	29.6
Metals and products	458,144	785,644	D	327,500	41.7
Motor vehicles and equipment	712,547	809,113	D	96,566	11.9
Waste and scrap materials	404,555	605,727	D	201,172	33.2
Forwarder and shipper association traffic	429,358	493,151	D	63,793	12.9
All other carloads	2,303,744	2,199,036	I	104,708	4.8
LCL traffic	10,757	11,922	D	1,185	9.8
Total Cars Loaded	**18,550,199**	**21,613,387**	**D**	**3,063,188**	**14.2**

Net income

Class I railroads
1971 - 1982



(Ordinary income before extraordinary and prior period changes and credits) *12 months ended Sept. 30

Condensed income account 1971, 1981, 1982

	1971 (millions)	1981 (millions)	12 mos. to 9/30/82 (millions)
Total operating revenues	$12,689	$30,734	$28,724
Total operating expenses[1]	11,947	28,476	27,286
Income taxes on ordinary income[2]	108	37	112
Provision for deferred taxes	100	923	628
Net railway operating income	595	1,336	753
Net ordinary income	247	2,105	1,346
Net income in constant 1971 dollars	247	1,034	630

Note: Data based on the new Uniform System of Accounts (U.S.O.A.) effective Jan. 1, 1978
[1] Operating expenses include rents and taxes other than income taxes
[2] Data for 1981 and 1982 include a small amount of state taxes

Source: Railway Age (February, 1983), pp. 34-35. Reprinted with permission.

have declined and new and rebuilt equipment installed has declined. For example, new and rebuilt freight cars added to the fleet reached a peak in 1979 at 96,000. In 1982 the estimate was for 19,000. Similarly, diesel electric locomotives reached a peak of 1900 in 1979 and dropped to 450 in 1982. And, the cost of railroad equipment, measured by the producer price index for the railroads, has increased at a slight rate faster than the railroad price index for freight revenue. But general cost factors such as material prices, fuel, wage rates and supplements, have risen at a much faster rate than the revenue per ton miles the railroads have received.

The methodology for calculating costs is complicated and not fully accepted. With legislative changes such as the Railroad Revitalization and Regulatory Reform Act (4R Act) in 1976 and the Staggers Rail Act of 1980, variable costs became even more important in the rate calculation. The amount of recovery permitted "any rate that was less than 160% of variable cost was not subject to challenge by shippers." On a staged basis that rate eventually goes to some "cost recovery percentage point" covering between 170% and 180% after 1984. The industry seems to be divided on this and "many rail pricing officers believe this lumping together approach is wrong." They feel that the variable cost factor in fact "varies" considerably with the different roads and their service and location situations.[22]

The unit train concept promises, and, in many areas has delivered, economies of scale and better service. With deregulation and the variable rate structure, however, there is an interest and stake by the shippers to fully utilize the trains so they will benefit from such cost advantages. If the trains are underutilized, the railroads will pass costs back to the shippers. There is now a surplus of freight vehicles of all types, including unit train operations.

Another factor the railroads must contend with is that private owned cars are taking more of the cargo than the railroads would wish to see. The grain market is subject to a number of external factors including productivity, price, foreign demand, shipper capacity, elevator capacity, and carrier capacity. For the railroads as in other industries serving a quite variable marketplace, a critical capital question is--what level of facility does one plan for? A good way to look at it is the following observation.[23]

> United States Senator Robert Dole--a Kansan talking to Nebraskans--got a question about railcar shortages, which were a big thing then and Bob Dole put it well, as well as any railroad man could have put it.

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[22] Robert Keys, "Uniform Rail Costing System: What it Means, Why it Matters (Rail Form A vs. URCS)," Railway Age (July 26, 1982), pp. 68-69.

[23] Ibid. pp. 68-69.

"Should you," he asked, "build the church big enough to handle the Easter Sunday Congregation, so it can sit half empty the rest of the year?"

The areas in which the railroads have trackage also reflect an infrastructure built in an older, different era. The rail technology, track, and capacity, were based upon lighter operations in weight and frequency. Much of the area, for example, that key railroads serve requires phasing out or upgrading of the facilities on those branch lines to meet heavier service demands. Burlington Northern feels that its grain business is based upon branch-line mileage trackage that is from the 1880's for lighter operations. The current unit trains cannot be run safely in these areas and studies would suggest that the lines, if they are not profitable, should be abandoned. The investment could be $100,000 a mile for upgrading the trackage. In any case, farmers find that every aspect of that transportation system can be squeezed for cost differential.For farmers to stay competitive in the world marketplace, they must receive the best cost offerings. The attitude is, according to one official, "we should discontinue service on some of our branch lines--those unable to load enough grain to keep the line profitable, those that will not allow us to profitably keep farmers competitive in the world marketplace."[24]

Railroad coal earnings also do not look encouraging. The 1983 forecast is flat and tonnage carried declined between 1981 and 1982. Although domestic cargo did rise, it was offset by declines in export tonnage. Stockpiles were high for the utilities, competition is strong from foreign producers, railroads are in an increasingly tough competitive environment. In one case Conrail, Chessie and Norfolk Southern were bidding against each other for a major New England utility. Interestingly, coal, a major revenue producer for the railroads, does not earn its own weight, so to speak. The railroads carry 42% of its tonnage as coal but that earned only 23% of the revenues. In contrast, farm products equal 9.5% of the tonnage and 9% of the revenues. Further contrast was provided by the fact that transportation equipment represents 9% of the revenues and only 2.1% of the tonnage. Since deregulation, coal rates have risen about 11% a year and "currently, rail transport accounts for 30.4% of coal's delivered price, compared with more than 38% in 1969." To improve their competitive position, railroads are attempting to develop different technology for carrying coal. Some railroads are purchasing aluminum cars which promise to offer "more tonnage per car, reduced maintainence, less track wear, increased fuel efficiency." One producer states that its aluminum coal hopper can carry 111 tons instead of 100 tons and

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[24] Gus Welty, "Grain by Unit Train," Railway Age (June 28, 1982), pp. 17-19.

weighs 17,300 pounds less than the average steel car.[25]

Railroads are under strong potential competition from pipelines, if they are allowed to be built. Railroad officials have repeatedly warned that rail company failures would occur.

With all this fluctuation and uncertainty in service and pricing, shippers are afraid that deregulation will allow rates to rise for many of their shipping activities.[26] The National Transportation League, representing eighteen hundred industrial shippers, says "it does not want a return to regulation but favors rules to stop railroads from raising car switching fees, and canceling joint rates on routes they once shared." The League is principally concerned about the situation that might occur if only one railroad ends up serving a particular area. Some railroad officials feel that competitive pressure will prevent this in any case.

Intermodal Transportation

As important as deregulation is, intermodalism in concept and practice may well be as revolutionary.[27] The transfer of cargo from one mode to another in the same container relies upon a new technology, less labor, and promises better service and lower costs. To illustrate, transportation and public utilities required about 14 percent of the labor force in 1920. It needs about 6 percent of the labor force in 1980. Breakthroughs in transportation technology account for much of this shift.

This has important implications for the mechanization of commerce and the role of transportation. Recent figures show that thirty-five percent of all employment in the United States is generated by commerce; defined as "economic interactions among the members of society." In our culture the four major areas of commerce include finance, transportation, distribution of goods, and communications. Key roles, furthermore, develop from them.

Firstly, government has traditionally provided a basis for the existence of commerce "good coinage, honest weights and balances, well maintained roads and port facilities and equitable (or at least consistent) judicial systems played a major part in establishing the success of city states and later of nations."

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[25]Frank Malone, "For Coal, A Decade of Challenge," Railway Age (April 1983), pp. 38-40.

[26]Ruth Harnel, "Shippers Seeking Rail Rules," USA Today (April 20, 1983).

[27]Eli Ginzberg, "The Mechanization of Work," Scientific American (September 1982), pp. 67-75.

To the extent that government has played a strong role, it has therefore served to offer incentives or disincentives through its activities.

Secondly, interaction among independent parties is practically the sine non qua universal requirement. It is so imperative that "often a move toward mechanization can be made only after broad agreement within the industry or across several industries, and this requirement can dictate the pace and the nature of change."

The third theme is that "many of the most effective mechanizations in commerce have been based on quite modest devices. Many others have been based on new configurations of standard machines. Often they are machines that have long been used in other economic sectors."

The role of regulation provided an interesting insight here to the development of containers. Regulation also influenced the pace of the diffusion and application of the innovation.

> Puerto Rican and Hawaiian routes were domestic and relatively unregulated, but U.S. international shipping services were both highly regulated and highly subsidized by the government. The subsidy mechanism tended to discourage the adoption of container technology; for example, it subsidized U.S. operators for crude costs higher than those of foreign operators, but not for the cost of developing more fully mechanized ships and services.

Because of the number of regulators, agencies, and private independent agents involved in the process, institutional impediments were strong. "Although the net financial effect of containerization was a considerable savings in cost, the distribution of the savings was worked out only slowly."

Several central themes arise from this. Mechanization in commerce makes commercial activities possible, and, in turn, relies on it. Simply put, a technical innovation is wasted if the institutional infrastructure does not exist to make it possible. Development of standards can be an important "trigger" for mechanization, however, such standards when adopted may well quickly inhibit further technological breakthroughs. New institutional relations will be necessary in the commercial system and "agreement must be reached (or forced) on how the benefits of innovation are to be shared." Governrment may play a role here in aiding or hindering the institutional relations for mechanization. In fact, government may intentionally or unintentionally distribute the benefits and disbenefits in disproportion to the "amounts deserved" in each sector.

The installation of any new process, institutional

relationship and certainly technology has offsetting effects. Perhaps the most important in the long term is the displacement of the human worker involved in that process. This is more fully explored as an issue for the transportation industry in the early part of this report. Elsewhere in this report the labor aspects are illustrated in terms of the contractual agreements protecting labor's role against containers, that is, for general cargo versus containers in Atlantic and Gulf Coast ports. To the extent that intermodalism helps increase even more the application of new technology, labor will be further impacted and may provide an institutional disincentive for widespread use. In fact, if the system is so technologically mechanized then it may be extremely vulnerable to several key pressure or control points in which labor may cause strikes to occur, thus affecting the work flow and ultimately bringing the economy and that particular operation to a halt.[28]

The types of equipment vary from stack container cars developed by the Santa Fe and the Southern Pacific which are more aerodynamically efficient and therefore save fuel, to the Road-railer, which has been placed in service in several key locations. The Road-railer is a combined vehicle and chassis with truck tires and steel railroad wheels. Either set could be raised or lowered as appropriate and can be pulled as tractor trailers on highways or coupled for unit train railroad operation. Service has already been started on the Burlington Northern between Chicago and Houston. Under consideration are the additional routes of Chicago, Kansas City, Tulsa, Dallas-Fort Worth and Houston. It is already in operation with Conrail between New York, Rochester and Buffalo.[29]

Even with the installation of containers as a new technology, the through-put aspect does break down at the terminal, whether at the ports, the railroad yards, truck yards or in the cities. The shipment is almost always slowed down and becomes more complicated and expensive in the denser areas. Until the 1950s and the development of the Interstate Highway System, the rail network was responsible for the distribution of freight in urban areas. Most urban goods shipments suffer from a lack of consolidation in the transportation operation in the urban areas, including independent shipments, carriers, routes, and terminals. To the extent that export transportation cannot be consolidated at the point of origin in containers and must go as breakbulk or general cargo, this expense promises to remain

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[28]Martin L. Ernst, "The Mechanization of Commerce," Scientific American (September 1982), pp. 133-145.

[29]California State Department of Transportation, 1982 California State Rail Plan (Sacramento: Caltrans, 1982), pp. 35-45; "Road-Rail and BN Plan, Chicago to Houston Run," Shipping Digest (May 2, 1983), p. 8.

high.[29]

Such new technology and deregulation have some interesting effects. A special study did estimate what the impacts of the Motor Carrier Act of 1980 would be. There definitely would be "increased shipper costs under a system where individual carriers set their own rates."[30]

1. Transportation management staff increases could total 30,000-90,000 nationwide, costing shippers up to $3.9 billion in annual salaries.
2. Additional outside expertise could involve annual cost to shippers of up to $300 million.
3. Approximately $1.3 billion could be spent annually on new or expanded private fleet operations in addition to the amounts being spent today.
4. Increased use of computer support for transportation functions could cost up to $1.6 billion annually.

Interline rate making, if removed, would cost:

1. $400 to $600 million annually, associated with increased staff levels.
2. $200 to $300 million annually for additional freight insurance and claims specialists.

There is a belief that very few companies and their managers are prepared. They do not fully understand the significance of deregulation and how it may affect their work. "It is likely that, in a large proportion of these companies, transportation staff are too busy keeping up with the day-to-day tasks to be able to devote time and staff resources to any activity which does not move the freight off of the platform each day."[31]

In summary, deregulation along with the new technology of intermodalism as illustrated by containers may well end up resulting in a two-tier transportation system "of owners-operators and a few large national carriers."[32]

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[29] M. A. Khan and O.C. Brenner, "Freight Shipment in Urban Areas," Journal of Purchasing and Materials Management (Spring 1982), pp. 22-28. For Road-railer discussion, see "Railroads--One TOFC Please--Hold the Flatcar," Handling and Shipping Management Review (October 1982), p. 19.

[30] "Trucking--Ending Immunity Would Cost Shippers Billions," Handling and Shipping Management (October 1982), pp. 19-20.

[31] Ibid, pp. 22-28. [32] Ibid, pp. 22-28.

Cost Trends

Another study conducted by the National Council of Physical Distribution Management looked at transportation strategies through the end of the century. It believes that only three to five national railroads may exist by 1990, and that there will be many fewer trucking companies and a greater role by owner-operator companies for distribution. It too believes that the Interstate Commerce Commission will play a lesser role even than it does now, but it will not be totally eliminated because many feel "complete deregulation could weaken our transportation system." Yet, re-regulation probably will not occur "unless there are massive financial problems in a specific mode or evidence of unreasonable, discriminatory, or predatory practices."[33]

The cost position of each transportation mode for small shipments, volume shipments, and mass volume shipments is very telling. The following tables show current 1980 costs and the growth through 1985 and then 1995. Note that in almost all modes of transportation, labor is the highest percentage cost excepting barges, pipelines, and air cargo.

Tables V-6, 7 depict the compound growth rates for the modal cost projections. The most likely scenario, V, shows that to 1985 the pipelines will have the lowest compound cost growth rate with the highest being in barge towing. Through 1990 pipelines have still the lowest cost and small surface parcels the highest. For all the modes it appears that "productivity gains and shipper-carrier relationships will be critical to keeping transportation costs in line with current costs.[34]

Shipping experts believe that several trends have already become obvious and bear watching. These have direct impact on general transportation for domestic needs and for export transportation. Major changes to observe are:[35]

* Rate bureaus will be less influential or even non-existent.
* There will be less regulatory reporting and consequently very little comprehensive information available.

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[33] Joan Feldman, "Transportation Strategies for the Eighties," Handling and Shipping Management (October 1982), pp. 41-46.

[34] Ibid, pp. 41-46.

[35] Patrick Gallagher, editor, "Assessing the Field--A Unique Form Provides Interesting Assessment of the Current State of the Physical Distribution and the Logistics Field," Handling and Shipping Management (October 1982), pp. 75-78.

Table V - 6

Table I Modal factor cost components 1980 (percentage of total cost)

Transportation Modes and services	Labor	Fuel	Equipment	Other	Total
Small shipments					
Motor carrier—LTL	67%	10%	11%	12%	100%
Surface small parcel	74	4	5	17	100
Air—small parcel	53	14	18	15	100
Air—combination carrier	35	28	11	26	100
Air—all cargo	28	32	17	23	100
Volume shipments					
Intermodal*	45%	17%	17%	21%	100%
General truckload	39	26	24	12	100
Private truck	46	20	21	13	100
Rail carload	48	12	18	22	100
Bulk truckload	52	14	27	7	100
Barge tow	24	26	34	16	100
Mass volume shipments					
Rail unit train	41%	24%	15%	20%	100%
Large barge tow	20	28	37	15	100
Oil pipeline	14	17	—	69	100

Notes

Labor	All identifiable labor costs including supervisory, maintenance and transportation including fringes.
Fuel	Fuel, oil, and associated taxes.
Transportation equipment (excluding facilities)	Depreciation, interest, nonlabor maintenance, vehicle licensing, vehicle insurance, vehicle rentals and leases.
Other	Utilities, nonfuel and nonequipment taxes, general supplies, nonequipment insurance, general operating expenses, communication expenses, office equipment, nonequipment interest.

*Door-to-door service.

Source: Joan Feldman, "Transportation Strategies for the Eighties," Handling and Shipping Management (October, 1982), p. 42.

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Table V - 7

Table II Modal cost projections compound growth rates: 1980-1985 (percent)

	Scenario I	Scenario II	Scenario III Most likely	Scenario IV	Scenario V
PPI†	8.5	8.5	8.5	8.5	8.5
Small shipments					
Motor carrier—LTL	8.2	7.6	6.6	5.6	6.1
Surface small parcel	7.9	7.5		6.5	6.9
Air—small parcel	10.3	9.3	8.7	8.2	8.0
Air—combination carrier	9.4	9.1	8.7	8.2	7.1
Air—all cargo	9.9	9.6	9.1	8.6	7.4
Volume shipments					
Intermodal*	10.0	9.3	8.6	8.0	7.8
General truckload	10.0	10.0	9.1	7.8	8.0
Private truck	9.9	9.6	8.7	7.4	7.9
Rail carload	10.1	8.9	8.3	7.7	7.7
Bulk truckload	9.6	10.0	9.4	8.4	8.9
Barge tow	9.8	14.0	10.9	9.0	9.6
Mass volume shipments					
Rail unit train	10.2	9.4	8.9	8.5	7.7
Large barge tow	9.8	12.7	10.8	8.8	9.3
Oil pipeline	5.7	5.5	5.4	5.3	4.4

Scenario

I—No productivity gains; no change in user fees other than changes already scheduled and inflation of existing fees.
II—Low productivity gains and high user fees.
III—Most likely level of productivity gains and user fees.
IV—High productivity gains and low user fees.
V—Most likely level of productivity gains and user fees; fuel increases at 50 percent of macro projection.

*Door-to-door service.
†PPI = Producer Price Index

Table III Modal cost projections compound growth rates: 1985-1990 (percent)

	Scenario I	Scenario II	Scenario III Most likely	Scenario IV	Scenario V
PPI†	8.6	8.6	8.6	8.6	8.6
Small shipments					
Motor carrier—LTL	10.3	9.2	8.5	7.8	8.2
Surface small parcel	10.4	9.9	9.5	9.1	9.4
Air—small parcel	10.1	9.9	9.6	9.3	9.1
Air—combination carrier	9.9	9.8	9.3	8.9	8.1
Air—all cargo	9.9	9.8	9.1	8.7	7.8
Volume shipments					
Intermodal*	10.2	8.9	8.2	7.6	7.6
General truckload	9.5	8.5	8.0	7.4	7.2
Private truck	9.5	8.6	8.2	7.5	7.6
Rail carload	10.7	9.7	9.2	8.5	8.7
Bulk truckload	9.4	9.2	9.0	8.6	8.6
Barge tow	9.5	9.0	8.7	8.4	7.7
Mass volume shipments					
Rail unit train	10.6	9.9	9.5	9.1	8.6
Large barge tow	9.5	9.3	8.7	7.7	7.6
Oil pipeline	6.2	6.1	5.9	5.7	4.7

Scenario

I—No productivity gains; no change in user fees other than changes already scheduled and inflation of existing fees.
II—Low productivity gains and high user fees.
III—Most likely level of productivity gains and user fees.
IV—High productivity gains and low user fees.
V—Most likely level of productivity gains and user fees; fuel increases at 50 percent of macro projection.

*Door-to-door service.
†PPI = Producer Price Index.

Source: Ibid., p. 44.

* Consolidation among rail carriers will continue, as will consolidation of the transportation industry in general. Railroads will likely become transportation conglomerates.
* Railroads will become sensitive to antitrust actions by affected customers. That and the threat of re-regulation will effectively be the only restraints on predatory activities by the railroads.
* Truckload motor carriage will continue to be a fragmented industry. Pricing will be done on the margin and service will be inconsistent.
* The less-than-truckload industry will be composed of 6-10 national carriers and perhaps 3-5 smaller carriers in each region. Non-union carriers are likely to dominate the regional markets across the country.
* LTL pricing will be simplified, probably developing into a cost-proportional scheme.
* Private carriage will become relatively less attractive to shippers, as companies take advantage of contractual arrangements and low truckload prices. However, many shippers will continue to justify fleets on competitive and service grounds. Other, less important uses will be as a negotiating tool and as a gauge for tracking freight handling costs. Smaller shippers without clout in the long-term market may grow more dependent upon private fleets.

These illustrate the directions that intermodalism as well as modal competition may soon take. In the meantime though, are some roadblocks that do prevent these trends from occurring. Still remaining are the 1912 Panama Canal Act which "barred the rails from controlling water carriers that operated through the canal," and the 1940 Transportation Act which "shut rails and pipeline companies out of other water carriage operations." These were clearly enacted along with the Motor Carrier and the railroad laws and thus are supporting administrative agencies in a very complex way. The regulatory barriers are being dealt with by Congress and the government but many of the actual ownership bans seem still to be in place. For example, "some portions of piggyback rail service have been completely deregulated. Trucking companies still must file tariffs for the highway portions of piggyback shipments but the rail segment of those trips is free from rate regulations."[36]

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[36] Michael Wines, "The Path to an Integrated Transportation System is Strewn with Roadblocks," National Journal (February 12, 1983), pp. 316-319. For an excellent discussion of how intermodalism may work given current institutional and regulatory systems, see: U. S. Department of Transportation, U.S. Imports Via Mini-bridge (Washington, D.C.: Government Printing Office, October 1982).

Transportation costs in general may be lowered if there is some kind of computerized communication and mathematic-based formula for determining rates and tariffs. It would require ultimately an organization to function perhaps as airline industry scheduling computer systems do where members would pay a subscription, and allow the shippers to pick and choose among the carriers. They would agree to the formula for the determination of rates and still allow considerable amounts of independence and flexibility. Although complex and full of proprietary information, recent ICC deregulation decisions do allow a modernized transport pricing system. One observer estimates that "the total expense available to reduction is in the neighborhood of $5 billion or $10 billion per year."[37]

The nation's freight bill over the last decade has remained relatively constant, compared to the GNP (Table V-8). It has stayed within the seven to nine percent zone between 1970 and 1980. Labor and fuel are the largest price components. Powerful labor unions have influenced all elements of the transportation system. Note the growth in transportation labor costs for all industries combined. (Table V-9) Railroad labor costs have increased 135% while water carriers increased the least, 107%. All other industries in comparison increased 75%.

In railroad labor costs note how the operating expenses against employee compensation worked out (Table V-10). Railroads decreased the amount of labor costs for employee compensation by 13% compared to 10 years earlier from 49.8 to 43.1. This was mainly achieved by a 19% decline in the number of employees. Even though the railroad labor situation change was very impressive it did not reflect "railroad pension program obligations, which in part, are absorbed by the government at a cost of $350 million a year."

The trucking industry under deregulation has not had enough time to show real change yet. It has remained relatively flat in these same measures.

In summary, the labor cost component of transportation expenses is lowest for barge and oil pipelines industries (about 20% totalling operating costs); in the mid range for truck and rail industries (about 40-60%) and highest for the urban bus industry (about 80%).[38] The near term, that is through 1984, carrier cost forecast shows very mild percentage changes. For the motor carriers, rails, and barges, all have increases in the

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[37] Herbert O. Whitten, "The Heart of the Transport Pricing Problem," Handling and Shipping Management (August 1982), pp. 13-14.

[38] Wilbur S. Smith, editor, "Report on Joint Conference, ENO Foundation Board of Directors and Board of Consultants," Transportation Quarterly (April 1983), pp. 209-216.

Table V-8

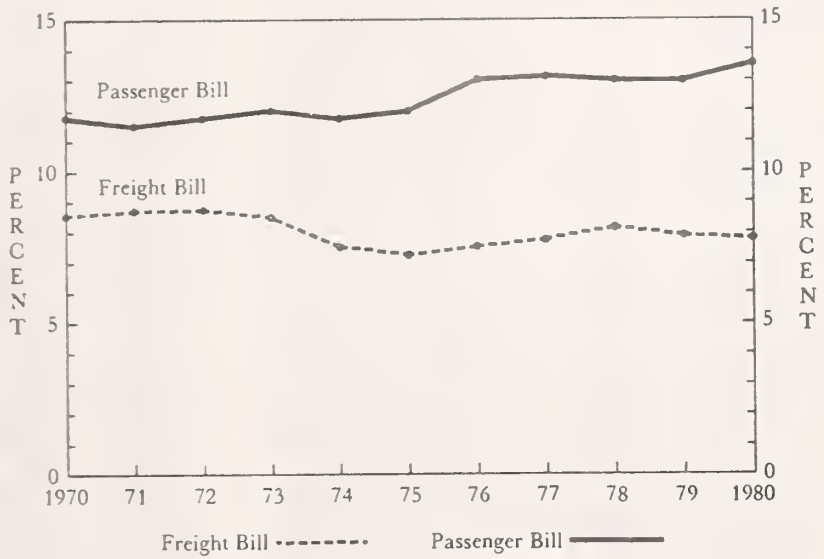

Figure 6. Changing shares of GNP of nation's freight and passenger transport outlays (1970 through 1980)

Table V-9

TABLE II—REGULATED FOR-HIRE TRANSPORTATION LABOR COSTS
(*Millions of Dollars*)

	Average Total Compensation		
	1970	*1979*	*% Change*
Transportation Industry	$10,601	$22,552	113%
Railroads	11,679	27,387	135%
Trucking & Warehousing	9,699	20,723	114%
Water Carriers	11,424	23,655	107%
Air Common Carriers	13,612	29,012	113%
Oil Pipe lines	12,000	27,450	129%
All Other Industries	9,739	16,997	75%
Gross National Product (Billions)	992.7	2,413.9	143%

Source: *Transportation Facts & Trends*, TAA, 17th Edition, 1981

Table V-10

TABLE III—RAILROAD LABOR COSTS[a]
(*Millions of Dollars*)

	1970	*1980*	*% Change*
Total Operating Expenses	11,478	26,250	129%
Total Employees' Compensation	5,711	11,318	98%
OE/EC	49.8%	43.1%	−13%
Total Employees	566,282	458,332	−19%

[a]Class I carriers only
Source: "Statistics of Railroads of Class I," AAR, Sept. 1982

TABLE IV—TRUCKING INDUSTRY LABOR COSTS[a]
(*Millions of Dollars*)

	1975	*1981*	*% Change*
Total Operating Expenses	18,206	34,657	88%
Total Employee Compensation	11,005	20,924	90%
OE/EC	60.4%	60.4%	0%
Total Employees	555,092	546,453	−1.3%

[a]Class I and II carriers only
Source: "TRINC's Blue Book of the Trucking Industry," Dun & Bradstreet, 1976 and 1982 editions

Source: Wilbur S. Smith, Transportation Quarterly (April 1983), pp. 211-213. Reprinted with permission.

range of roughly 1 to 3 1/2 percent. Trends for 1984 were anticipated to pick up and rapidly increase their percentage rate of change.[39]

Application of user fees will help change these cost relationships. In the long run, they will theoretically even out and make cost distribution more equitable. The new gas tax will in principal enable truckers to pay a share more commensurate to their usage. The other fuel taxes will similarly affect the other modes of transportation. In terms of maritime activities the Coast Guard will possibly benefit from user fees as well. Recent U.S. Department of Transportation proposals include charging for direct service on a fee basis (full costing) by the Coast Guard. One proposal would permit "the charging of fees for commercial vessels safety services such as the inspection, management, documentation and recording of title of a U.S. vessel, the licensing of an operator or a merchant officer and the certification of a merchant seaman. Other fees potentially to be applied by the Coast Guard include "issuance of permits for private aid, hazardous material and domestic icebreaking upon request." Fees would not be applied to search and rescue services or recreational or commercial fishing activities and boatowners. In total for the Department of Transportation budget, over sixty-nine percent is attributed to user transportation fees, and not to the general taxpayer.[40]

In the case of inland waterways and ports, the various user fee proposals for dredging and maintenance can radically change the costing relationship and competitive position of the modes of transportation and port facilities affected by them.

Intermodalism, whether pricing as a measure of service or the total concept, is dependent upon the attitudes of what some call the "iron triangle" of American life (the government, industry and people). The three must cooperate to help weld that transport system into an extremely strong productive role for the 21st Century. The concept of intermodalism as it relates to exports is extremely apt and promises great potential. All aspects of the system can benefit from traditional rail and highway competition which should now become cooperation via containers or with the barge system. Ports should be able to coordinate more directly rather than compete so much and this could be accomplished with existing facilities or new offshore deeper water facilities. Maritime fleet should be encouraged to compete rather than allowed to deteriorate at high levels of cost

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[39] William Best, "Cost Trends," Handling and Shipping Management (May 1983), p. 15.

[40] U.S. Department of Transportation, "Dole Proposes Bill to Permit Fees for Coast Guard Services," press release (April 21, 1983).

subsidy. The arteries for transport and international competition exist, but they lack coordination and the ocean is the medium by which they can be intermodally linked together.[41] Clearly federal transportation can play a critical role here in the export system. An integrated policy is necessary.

Conclusion

Deregulation in the transportation sector is part of a general movement in American society to redefine the institutional roles of the government, private sector and citizens. Much of the impetus for deregulation came from technologically induced environmental changes in the commerce and transportation systems. Intermodalism represents how a new technology, even when slowly introduced and accepted, can be quite revolutionary.

In general, there is the belief that better service and lower costs will result from the deregulation of the motor carrier and rail industries. Preliminary observations indicate that this is the case on the more competitive route structures. Where there may still be limited modal competition and light volume shipping, costs may turn out to be higher to the shipper if the route or line is not abandoned as being unprofitable.

Partly due to the recession and to deregulation, labor will find itself in a more fluid position. Uncertainty in the number and types of jobs required, as less labor-intensive technology is applied, will probably grow. It would not be far fetched to expect strikes by pivotal but small labor groups in an effort to protect hard earned wage, fringe benefit packages and job security.

Another spinoff of deregulation is that it might hasten the trend for shippers to consolidate facilities wherever the best transportation service is. In one sense this will ultimately help lower transport costs if the shipper is on the main line or highway. On the other hand, the loss of jobs in the original location may offset such gains for national policy.

Lastly, deregulation may provide the impetus for a more centralized, integrated intermodal transportation system. In principal, it would appear that such a system of thirty-thousand trunk-line rail miles, and trucking and rail company joint ownership should provide better service and lower costs. Some fear though that less competition, particularly for rails, will result in still higher costs. Hopefully, all such improvements will be reflected in the lower overall cost of U.S. exports.

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[41] David C. Oliver, "A Framework for an International Multimodal Transportation Policy Based Upon the Concept of the World Ocean," ICC Practitioner's Journal (January/February 1982), pp. 196-208.

Chapter VI

EXPORT TRANSPORTATION SYSTEM BOTTLENECKS AND BARRIERS

Introduction

This chapter addresses transportation intergovernmental bottlenecks and barriers to the export process. It reviews the experience of four leading ports (Baltimore, Hampton Roads, New Orleans, and Seattle) in terms of their logistical operation and relationship with intergovernmental policies. The ports were chosen because they are among the largest exporters in the nation and represent a geographic spread for coastal and hinterland drawing zones.

The research approach included case field studies, site visits and information collection by mail and phone. Contact was established with key port officials, trucking and railroad executives in each area. The material presented is based upon much more elaborate and extensive research contained in working papers for each port.

During the period of research, the nation was intensely experiencing strong economic recession and uncertainty. For the port and transportation industry in general, the first effects of truck and rail deregulation were observed. Many transportation relationships were quickly sorted out and are still rearranging. The export transportation system does not yet fully know the implications. All this occurs while the nation's international trade position is deteriorating. Whatever the situation, it was and is a difficult period for ports and their supporting hinterland transportation infrastructure.

The following cases describe each port area, bottlenecks and barriers, and policy issues.

Port of Baltimore

The port-maritime system has been welded from intense competition among transportation modes for different cities in the Northeast and the Atlantic Seaboard. Originally, and still, a seafaring location, Baltimore itself became the central focal point for intense competition between the canal and river system of other Atlantic ports especially to the north, and the new development of railroad technology. For example, plans were first set in 1827 to ultimately develop a railroad of 380 miles running inland to the Ohio River as a two-track system. A group of merchants developed the idea because they were:[1]

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[1]"Baltimore: Birthplace of American Railroading," Greater Baltimore Business Update (1983), p.5.

Fearful their city was losing its lucrative trade with the pioneer settlements west of the Allegheny Mountains. The rival city of New York was enjoying the immense benefits of the new Erie Canal. Philadelphia was planning to build a canal westward, as was Washington.

This rich transportation heritage, including the Naval Academy at Annapolis, the extensive coastal marine resources developed for industry, agriculture and recreation, and the primacy of the railroads, gave Baltimore a strong position to hold and increase its share of trade through the seaport.

The Port of Baltimore is now part of the Maryland Port Administration. This governmental institution and transportation modal relationship is rather unique to the nation. However, it was not always so. The port developed very quickly because of its major service zone location for the Midwestern industrial strength of the country. And the two facility owner railroads, (B&O, Pennsyvania) were very competitive for domestic freight, but they did not modernize as trade grew.

By the 1950's it became evident that the relationship had to be more balanced. Port operations should be developed independent of the railroad, despite the fact that railroads had established the basic ownership and interrelationships. In 1956 the state of Maryland passed legislation leading ultimately to a new agency with authority over all ports in the state. This was the Maryland Port Authority (MPA). Its role is to consider the total activities of the state maritime work. By virtue of transportation volume, it is principally concerned with Baltimore. In terms of the general relationships, Baltimore possessed ninety-nine percent of the traffic; Cambridge was a one-berth port with perhaps twenty ships a year; and Salisbury was a river barge port; lastly, Crisfield a pleasure boat port. The port authority became in 1971 the Maryland Port Administration. The responsibilities for work remain the same and are as today: 1) "to develop and construct a viable port plant," 2) "to promote and sell the use of these facilities to the international trade."[2]

It was significant that the city and state became involved in the port as a public function and took over from the railroads in 1971 . It also became part of the larger transportation agency for the state, entitled the Maryland Department of Transportation.

Continuing the relationship of private sector operation and ownership of actual terminals for special functions, such as coal or grain or petroleum products, the MPA instead operates public

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[2]Port of Baltimore, Anniversary Issue--1981-82 Handbook (1982),pp. 2-6.

piers for general cargo and containerships. By this division of responsibilities it is able to stress and emphasize the most modern technology and target its resources for specialized functions. The Dundalk marine terminal development illustrates this focus under the capital plans. Other public facilities include Clinton Street Marine Terminal, North and South Locust Point Marine Terminals and Hawkins Point Terminal. Privately-owned and operated facilities are: CCSC Marine Termial, operated by Consolidated Coal Sales Company; Port Covington Terminal, operated by the Western Maryland Railway Company (the Chessie System); Ruckert Terminals Corporation; Sea-Land Service Terminal; and the Terminal Corporation facility. This kind of relationship is somewhat different than most West and some Gulf Coast and East Coast ports. See Map VI-1.

The Port is very active in export trade and has a net balance in Fiscal Year 1980 for export. Much of this increase may be attributed to the demand for coal, compared to prior years.

The largest export category in 1981 was coal with grain (including corn) following second. (See Tables VI-1, 2). However, the principal commodities are coal and corn, clearly leading the others. Of the 487,951 tons exported, bulk cargo constitutes 18,690,397 tons. The remainder was general cargo.

Overall, the port's total foreign trade was 34,344,322 short tons for 1981; bulk cargo constituting over 28 million tons of this. The value of this tonnage has clearly grown as shown in the following data. Historically, from a total commerce activity in 1972 of $3.3 billion to over $15 billion in 1980. The export share of this total foreign commerce grew from $1.4 billion to 8.9 billion. Interestingly, in terms of total foreign commerce Baltimore's percentage share of the total North Atlantic has grown from 11.2% to 14% in the same period. But, its share of the total United States has dropped from 4.8% to 3.9%. More importantly, for export commerce, the shares for both the North Atlantic and the United States have consistantly moved upwards, with a pause in 1981. Especially important is its situation for the North Atlantic, increasing from 14.6% to 21.6% of export activity while for the United States moving from 3.5% to 5.2%.

Bottlenecks and Barriers

Reviewing the transport process from the hinterland to the port, the principal mode for conveying cargo is the railroad. And, in terms of major tonnage transported for bulk commodity it is the railroads that carry the grain and the coal. The two railroads serving the port are the CSX system and Conrail. Of the two in terms of track facilities, equipment, maintenance and upkeep, the CSX System is the stronger.

The CSX system, generally known as the Chessie family lines has over 27,000 miles of road linking 22 Eastern and Southern states and one Canadian province. Combined, they are the largest

MAP VI-1

BALTIMORE HARBOR

Source: Maryland Port Administration. Baltimore Shipping Services (Baltimore: Maryland Department of Transportation, Spring 1985), pp. 28-29.

Table VI-1

SUMMARY OF FOREIGN WATERBORNE TRADE AT THE PORT OF BALTIMORE
(Quantities shown in Tons of 2,000 Pounds)

Calendar Years 1981 and 1980

EXPORT TRADE

BULK CARGO	1981	1980	% of Change
Coal	12,869,914	12,126,994	+ 6.1
Corn	4,367,834	4,872,739	- 10.4
Wheat	585,194	339,200	+ 72.5
Barley	64,921	28,879	+ 124.8
Soybeans	569,373	732,985	- 22.3
Soybean Meal	215,326	239,030	- 9.9
Coke, Including Petroleum coke, Pitch and Asphalt	15,629	32,853	- 52.4
Fertilizer and fertilizer Materials	2,206	14,510	- 84.8
TOTAL BULK CARGO	18,690,397	18,387,190	+ 1.6
EXPORT GENERAL CARGO	2,797,554	3,277,887	- 14.7
TOTAL EXPORT TONNAGE	21,487,951	21,665,077	- 0.8

IMPORT TRADE

BULK CARGO	1981	1980	% of Change
Iron Ore	6,070,999	5,857,595	+ 3.6
Manganese Ore	89,234	79,294	+ 12.5
Miscellaneous Ore and Concentrates, including Chrome	180,411	259,707	- 30.5
Residual Fuel Oil	1,135,725	2,312,074	- 50.9
Petroleum, Crude and Partly Refined	751,086	822,131	- 8.6
Miscellaneous Petroleum Products	226,854	1,044,254	- 78.3
Sugar	482,311	187,305	+ 157.5
Molasses, inedible	91,394	76,942	+ 18.8
Salt	136,388	477,921	- 71.5
Gypsum	603,112	677,040	- 10.9
Bauxite	183,968	486,519	- 62.2
Fertilizer and Fertilizer Materials	114,308	165,291	- 30.8
TOTAL BULK CARGO	10,065,790	12,446,073	- 19.1
IMPORT GENERAL CARGO	2,790,581	2,775,726	+ 0.5
TOTAL IMPORT TONNAGE	12,856,371	15,221,799	- 15.5

TOTAL FOREIGN TRADE

BULK CARGO	1981	1980	% of Change
Ores	6,524,612	6,683,115	- 2.4
Coal and Coke, including petroleum cokes, pitch and asphalt	12,885,543	12,159,847	+ 6.0
Petroleum and petroleum products	2,113,665	4,178,459	- 50.5
Grains	5,587,322	5,973,803	- 6.5
Sugar	482,311	187,305	+ 157.5
Molasses, inedible	91,394	76,942	+ 18.8
Salt	136,388	477,921	- 71.5
Gypsum	603,112	677,040	- 10.9
Soybean Meal	215,326	239,030	- 9.9
Fertilizer and fertilizer materials	116,514	179,801	- 35.2
TOTAL BULK CARGO	28,756,187	30,833,263	- 6.7
TOTAL GENERAL CARGO	5,588,135	6,053,613	- 7.7
TOTAL FOREIGN TRADE	34,344,322	36,886,876	- 6.9

Table VI-2

PORT OF BALTIMORE

FOREIGN OCEANBORNE COMMERCE

Calendar Years 1972-1981

	EXPORT COMMERCE		IMPORT COMMERCE		TOTAL FOREIGN COMMERCE	
Year	Value	Short Tons	Value	Short Tons	Value	Short Tons
1972	$ 1,431,247,000	8,176,337	$ 1,940,172,000	20,999,309	$ 3,371,419,000	29,175,646
1973	2,317,568,000	10,321,690	2,386,456,000	24,250,277	4,704,024,000	34,571,967
1974	3,554,555,500	12,876,241	3,605,097,000	28,110,360	7,159,652,500	40,986,601
1975	4,946,628,000	13,868,820	3,233,128,000	22,372,273	8,179,756,000	36,241,093
1976	5,173,876,500	14,944,604	3,075,348,700	19,651,223	8,249,225,200	34,595,827
1977	5,017,273,400	14,039,561	3,363,949,600	16,368,524	8,381,223,000	30,408,085
1978	6,444,504,900	14,339,178	4,898,414,900	19,184,697	11,342,919,800	33,523,875
1979	7,448,933,002	18,189,946	5,313,973,607	20,338,570	12,762,906,609	38,528,516
1980	9,043,500,375	21,665,077	6,245,382,915	15,221,799	15,288,883,290	36,886,876
1981	8,968,575,366	21,487,952	6,071,967,646	12,856,372	15,040,543,012	34,344,324

BALTIMORE'S PORTION OF THE FOREIGN TRADE TONNAGE MOVING THROUGH ALL PORTS
OF THE UNITED STATES AND THOSE IN THE NORTH ATLANTIC RANGE

Calendar Years 1972-1981
(Net Tons)

	EXPORT COMMERCE					IMPORT COMMERCE					TOTAL FOREIGN COMMERCE				
Year	Total United States Ports	Total North Atlantic Ports	Port of Baltimore	% of Total U. S.	% of Total N. A.	Total United States Ports	Total North Atlantic Ports	Port of Baltimore	% of Total U. S.	% of Total N. A.	Total United States Ports	Total North Atlantic Ports	Port of Baltimore	% of Total U. S.	% of Total N. A.
1972	231,401,500	56,194,000	8,176,337	3.5	14.6	374,909,500	203,462,500	20,999,309	5.6	10.3	606,311,000	259,656,500	29,175,646	4.8	11.2
1973	275,788,500	62,394,000	10,321,690	3.7	16.5	461,101,000	240,627,500	24,250,277	5.3	10.1	736,889,500	303,021,500	34,571,967	4.7	11.4
1974	266,531,150	73,981,500	12,876,241	4.8	17.4	468,348,500	223,762,500	28,110,360	6.0	12.6	734,879,650	297,744,000	40,986,601	5.6	13.8
1975	270,876,500	71,957,000	13,868,820	5.1	19.3	451,122,500	196,107,000	22,372,273	5.0	11.4	721,999,000	268,064,000	36,241,093	5.0	13.5
1976	284,685,000	69,801,500	14,944,604	5.2	21.4	538,171,000	198,225,500	19,651,223	3.7	9.9	822,857,000	268,027,000	34,595,827	4.2	12.9
1977	275,811,000	58,065,000	14,039,561	5.1	24.2	626,264,000	202,309,000	16,368,524	2.6	8.1	902,075,000	260,374,000	30,408,085	3.4	11.7
1978	301,573,000	51,575,000	14,339,178	4.8	27.8	601,653,000	189,564,500	19,184,697	3.2	10.1	903,226,000	241,139,500	33,523,875	3.7	13.9
1979	359,329,300	77,629,000	18,189,946	5.1	23.4	603,829,000	183,995,000	20,338,570	3.4	11.1	963,158,300	261,624,000	38,528,516	4.0	14.7
1980	403,326,000	100,700,500	21,665,077	5.4	21.5	495,376,500	151,329,500	15,221,799	3.1	10.1	898,702,500	252,030,000	36,886,876	4.1	14.6
1981	411,040,000	99,486,500	21,487,952	5.2	21.6	478,495,000	151,335,500	12,856,372	2.7	8.5	889,535,000	250,822,000	34,344,324	3.9	14.0

Source: Port of Baltimore, Statistical Summary, Foreign Commerce (Baltimore: 1981), p. 2-3.

haulers of coal and phosphates in the free world and serve 37 Atlantic, Gulf Coast and Lake ports.[3] The rail system for the most part that the CSX maintains is efficient and able to move large quantities by unit trains.

The Conrail System has a large drawing zone as well, basically formerly the New York Central and Pennsylvania network with supporting railroads. However, the system has been reorganized several times and has plowed considerable amounts of federal funds into maintenance, and new equipment acquisition. Results are beginning to show and service is improving, according to reports and advertisements of Conrail.

In any case, the capability to transport to the port by railroads is a direct function of their financial health and management activities. To the extent that each of these mainline railroads serves other ports as well, the general condition of them may be equally, potentially, affecting all other ports served by them. Thus, Baltimore is not necessarily singled out as a candidate suffering, or negatively influenced, by these railroads' status.

The highway system leading to the port is in seemingly good shape. There have been no reports of severe difficulties or problems, but there is the general fact that it is wearing out, if not already completely, in some places. It will benefit from the new highway legislation. The new federal funds should substantially help improve the situation although it takes some time for the money and projects to come on line and be completed. Two-thirds of programmed funds are targeted for completion of the Baltimore area Interstate System--over $2 billion.[4]

The extensive rennovation that has taken place in the Baltimore harbor since formation of the Baltimore Port Commission and subsequently Maryland Port Administration has moved strongly ahead and brought on line several major container facilities. The private operators in turn in the port have kept their export terminals at high degrees of efficiency. Particularly in the coal sector, the volumes were quite large and there seemed to be no difficulties in their capabilities for the immediate and near term future.

Within the port area there are plans underway and actual construction to improve somewhat logistical bottlenecks that could act as barriers if traffic volume increased enough. They principally seem to be at this point, the tunnel underneath the harbor for the Interstate System and dredging of various harbor

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[3]CSX Corporation, Annual Report (New York: New York, 1982), p.1.

[4]Baltimore Port Planning Council, Transportation Improvement Program, 1982-1984 (June, 1981).

sections and the approaches.The dredging is particularly important for coal transport and the super-size colliers.

There is a 1.7 mile tunnel connecting Locust Point with the lower Hampton Industrial area. This Fort McHenry tunnel will be open in 1985 and be an adjunct to the transport system around and through the port. It is eight lanes and a key link in the northeastern corridor Interstate System. It costs $825 million and is funded mostly (90%) by the federal government with the City of Baltimore participating. The tunnel was originally planned as a bridge, however, technical factors made it prudent instead to construct under the harbor surface. The dredge spoils generated by the tunnel construction is quite substantial and will be used at a site about two miles southeast of the tunnel; ultimately becoming a new marine terminal administered by the port with 2.25 million ton annual cargo capacity.[5]

The highway transport aspects have been affected in the past by states' restrictions on operating size and conditions. None seem to be especially pertinent to inside Maryland operations; however, trucks coming from Iowa or Pennsylvania, for example, have in the past been controlled by limitation to fifty-five feet vehicle rather than sixty feet, or, frequent safety inspection of container chassis. In the case of Pennsylvania, the container chassis were required to have inspection stickers along with truck inspections for vehicles moving through the state but registered in states without formal inspections programs. Both situations were overruled by the courts. They illustrate the difficulty of moving cargo through independently regulated states.[6]

These small situations cited by the Port of Baltimore as being significant (when volumes occur) had been bothersome in the past. With the new federal highway legislation there is the requirement, as noted earlier, for larger vehicle size operation, uniform operating conditions and laws throughout the states. Several states have challenged the rule.

The port administration is opening a berthing facility at the new Dundalk marine terminal. This 1000 foot bulkhead will permit 750,000 tons of cargo capacity annually to the port operations. The container cargo operation will therefore have 27% increase over current tonnage levels. Though not an immediate bottleneck, this would have been, given the rapid growth in container operations. Baltimore has the second largest container operation on the East Coast. This facility will permit depths of

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[5]Port of Baltimore, "Port's Road Access to Increase," Port of Baltimore (July 19, 1982), pp. 18-19.

[6]Linda Greenhouse, "Court Overturns Iowa Limit on Truck Size," New York Times, (March 25, 1981); Greg Storey, "Chassis Law Overturned; PA. Officials May Appeal," The Journal of Commerce (June 15, 1981).

42 feet alongside for substantial tonnage handling and ship size.[7]

All in all, the state DOT is investing $66.2 million for three rehabilitated marine terminals.[8]

This amount of activity, whether for the tunnel or for new wharf space, and other facilities, along with basic harbor dredging, creates a considerable amount of disposal problems for the fill material. Much of the dredging spoils is to be disposed at a new beach created by the port within the Chesapeake Bay. Some of the beach is already open. It is 10,000 feet long and includes 3,000 feet of new beachhead. Over 560,000 cubic yards of sand was generated. The beach construction has reconnected two eroded islands (formerly one). The entire operation is part of the $60 million Hart-Miller Dredge Material Containment Project which began September, 1981. Ultimately, beginning in October 1983, the dredging material from the port's main channel access areas will be disposed of there as well. This will permit the port to increase its depths from forty-two to fifty feet in these critical areas. The access channel dredging will create fifty-three million cubic yards of material. The fifty-foot channels are necessary for coal colliers and other bulk commodities carriers for example. The port anticipates that the Hart-Miller Containment Facility Area will handle fifty-five percent of the next twenty years' dredged disposal site requirements for the ninety-seven million cubic yards in the total project. Once finished, the whole facility area will be turned into a permanent 1,140 acre wildlife and recreational area to be administered by the state department of natural resources. It will include ponds, fishing piers and park landscaping.[9]

Their activities were in part guided by a regional Baltimore Harbor Environmental Enhancement Plan which suggests a better way for permitting dredge and fill projects and protecting the harbor aquatic environment.[10]

To handle the export volumes of coal that are ultimately anticipated by the year 2000, the port and private terminal operators are actively planning and constructing expanded and new facilities. The long range probabilities for the need for these

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[7]Port of Baltimore, "New Dundalk Berth Nearing Completion," Port of Baltimore (July, 1982), pp. 1-5.

[8]Baltimore Regional Planning Council, TIP, op.cit., p. 145.

[9]"Beach for Swimmers Opens at Hart-Miller," Port of Baltimore (July, 1982), p. 7.

[10]Baltimore Regional Planning Council, RRC Annual Report--1982 (March, 1983), pp. 43. See also the 1982 RRC General Development Plan.

facilities seems to be well justified, given the information presented earlier in this report. Yet, as noted by the Port of Baltimore, there is the economic turndown that has very much hit the export coal market. The economic situation has lessened the degree of logistical bottlenecks for coal export development. It has provided breathing space for the time being.

The state of Maryland has been supportive along with the City of Baltimore in the coal export process. The state has appropriated over $60 million to help construct a coal dredging spoil disposal site. The state's position officially is to not own coal export facilities, that is a function of the private sector. And, the state feels very strongly about the federal role for dredging. The port has added two new facilities for coal handling. The Curtis Bay Facility is now operating and is a ground storage facility. When reaching maximum capacity it will handle twelve million tons a year. The second facility is also for twelve million tons and that is under the ownership of Consolidated Coal Company. But, things have changed in terms of the volume exported. Forty-two coal vessels registered at the port in August, 1981. In August, 1982 zero registered. The market has turned down. These two new facilities are valued at over $225 million of private capital. In addition to the state's $60 million for the dredge disposal site, the city of Baltimore is issuing industrial revenue bonds for the coal projects. According to state officials, this sizeable local and private investment meets the spirit of the new Federalism, however, if the dredging costs to be covered were not to be paid by the federal government, an additional $400 million would be required. All this is being done to promote the export of West Virginia, Pennsylvania and Ohio coal. The port and the state of Maryland feel that they are too much in the forefront in this process.[11]

The extent of the economic slowdown is shown by the status of other plans for new coal port development. The two facilities already noted are the only so far completed. Four in total were proposed for the Chesapeake Bay Area. One, a super port at Marley Neck has been suspended and a new pier at Sparrow's Point is "in discussion stages." This operation will be influenced by mile long coal trains disrupting city traffic at twenty-one locations. New bridges and other improvements may require $55 million that cannot be funded at a local level by governmental or private organizations. Currently, the two new facilities will raise Baltimore's export capacity to thirty-four million tons by 1985 from the present twelve million tons. In 1971 it was

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[11]Statement of Hans F. Mayer, Deputy Secretary, Department of Economic and Community Development, State of Maryland, before the Subcommittee on Energy and Mineral Resources, Committee on Energy and Natural Resources, U.S. Congress American's Role in the World Coal Export Market (America's Coal Ports) (Washington, D.C, U.S. Congress, September 16, 1982), Pt. IV, pp. 158-161.

estimated that the port required $243 million of dredging work. Initially this was to be performed as promised by the federal government. As with many other ports in the nation, the game rules have changed. Another illustration of the suspension of activities in the private sector, or at least the downscoping, is that the Chessie system (CSX) planned over $400 million of improvements for Baltimore coal terminal rail capacity. This will be cut by $125 million if the other terminals do not go up at Marley Neck. The railroad does not know who will pay for the required street and municipal area improvements. Ultimately, over thirty to forty one-mile long coal trains will traverse the city each day. Should this come to pass, there are streets and major arterials near the new terminal areas that carry up to twenty thousand vehicles a day. The trains will interrupt traffic at least fifteen minutes each time. Also, when the traffic was heavy in the harbor, ships were backed up as at other ports. For example, there were thirty-five ships outside Annapolis waiting to get in. A pre-registration system was set up to cut the expensive demurrage about fifteen thousand dollars a day.[12]

At the federal level it would appear that the most significant intergovernmental policies applicable to port export transportation activities for Baltimore are in deregulation, environment in general, air pollution, water pollution, preservation of wildlife and wetlands, and permits for dredging. The applicability of these federal laws, rules and regulations to the port activities has principally been in new operations, new construction, and anticipation for expanded work in future plans. For the most part, current operations are not unduly restricted or hampered by such laws.

Deregulation, for example, has theoretically removed the barriers to free competition among transportation modes. In the case of the port, the railroads are more competitive, providing better services and costs. For export coal, reportedly railroad rates seem to be trending towards long term contract negotiation and agreement. The railroads have felt secure enough to add capital for port coal terminal development on the basis of their agreements. Although there are reports noted that still the cost of shipping on railroads to the port adds up to be an important marginal part of the export costing structure.

Further noted under deregulation has been the weight and size and operating restriction limitation from several of the states. With the creation of the new federal law these have been removed, but currently under challenge in several key states. They may impede current operations economies of scale insofar as the maximum tonnage and variable cost, such as labor. Should

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[12]Paul D. Mindus, "Sluggish Economy has Coal Export Plans Dragging," The Baltimore Evening Sun (December 17, 1982), in America's Role in the World Coal Export Market.., pp. 172-173.

various taxes and license restrictions at the state level also continue, operational costs may further increase. The issue has yet to be determined and is of great interest to the trucking community and states.

One aspect of deregulation that has concerned the Port of Baltimore is its rail general cargo freight rates. The Interstate Commerce Commission had proposed exemption from regulation of boxcar traffic, based upon a Conrail petition of May 22, 1981. At first glance, it would appear to offer incentives to use boxcars and to help the small shippers for primarily domestic movements. There would be positive, potentially, benefits for import-export cargo transportation as well. But, the port believes each situation would have to be considered by itself and reviewed carefully. On the whole, the exemptions would seem to be beneficial and illustrate another potential regulatory area that will provide for competition and fluctuation in the marketplace. And, as a rule, boxcars cost quite a bit because of the labor intensiveness. For example, Baltimore conducted a rate comparison for powdered or granulated cleaning compounds from randomly selected transportation points. From Indianapolis to Baltimore the boxcars, motor carriers and piggyback were compared and boxcars was almost twice as high as piggyback.[13]

Another interesting element of deregulation and international competition or cooperation has been what is called the "cargo diversion" problem. This situation has occurred because Canadian shipper and intermodal service provider, CAST, entered the New Jersey-New York-Delaware-Pennsylvania-Maryland-Virginia market offering cut-rate intermodal container tariffs via the port of Montreal. These initial rates were lower than American conference rates for the same territory and diverted up to four million tons of containerized cargo through Montreal. The United States North American ports were definitely concerned and attempting to handle the problem. One member of Congress proposed legislation dealing with the "problem" H. R. 3637, Congressman Mario Biaggi. The Interstate Commerce Commission investigated the situation about the time when events took a sudden turn. After CAST was able to arrange in 1981 contractual relationships for offering cut-rate services to American shippers,it turned around quite quickly and charged higher than conference rates. This totally upset the market and was rather agonizing for many in the transportation industry. CAST subsequently started negotiating for its own sale and was under intensive investigation in Canada. Twelve large Canadian carriers were affected and being investigated by the I.C.C. The purpose of the Biaggi Bill was to "provide for jurisdiction over common carriers by water engaging in foreign commerce to and from the United States utilizing ports and nations contiguous to the United States."

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[13] Dave Ziolkowski, "Boxcar Freight Seeks Parole," Port of Baltimore (Baltimore, July, 1982), p. 35.

By 1979 the situation was grave. The value of 2.10 million tons moved through Montreal and other Canadian ports equaled $3.39 billion. Other American ports along the entire frontier to Seattle were affected as well. And these ports included: Detroit, Seattle, Odgensburg, Buffalo, St. Albans, Portland and others. The import problem was even more widespread for American ports and supporting facilities. Nevertheless, over fifty large corporations, and shippers, were in support of the CAST application to the I.C.C. for operating permission. Clearly, a large cost advantage was being subsidized and offered initially. It disturbed the northeastern ports.[14] The whole question is raised here to illustrate the possible competitive concern for many transport industry shippers affected by the deregulation atmosphere. In the case of Baltimore it is one of several ports that prefers not to lose cargo, for reasons that could be ameliorated by consistent and coherent federal policy.[15]

At the moment, the Port of Baltimore seems to have no serious bottlenecks and barriers for the transportation of the cargo from the hinterland through its facilities onto the ships. The general operations of the port over the last several years have met, on an incremental basis, various federal, state and local laws. As each new facility was brought into play from planning to actual construction and operation, there was ample opportunity for rules and regulations to influence development. If the facility were developed by the port, then the port could control its own activities directly. If the facility was developed by a private marine operator, such as in the case of coal terminals, then the port by proxy would help and perhaps guide the process for them, but not be the ultimate lead agency.

Deregulation, although initially and very probably a boon to the shipper, may affect the carriers and the port's revenue generation. For example, whether trucking or rail, the companies for the most part are now free to set long term contracts and to offer extremely low "loss-leader" type fare structures for our different cargo situations and routing. If this continues in the unbridled ways so far, it is possible that a rate structure may be developed by some carriers to successfully draw cargo away

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[14]Maryland Port Administration, Shippers, Ports and Canadian Cargo Diversion (Baltimore, June 25, 1982); Richard A. Lidinsky, Jr., Statement Before the Subcommittee on Transportation and Tourism on HR 3637 (Baltimore, 1982); United States Department of Commerce, Maritime Administration, U.S. Exports and Imports Transhipped Via Canadian Ports (Washington, D.C.: Market Analysis Program, March, 1981); United States Department of Commerce, Maritime Administration, U.S. Exports and Imports Transhipped Via Canadian Ports (Washington, D.C., March, 1982).

[15]American Association of Port Authorities, Proceedings of the Annual Meeting (September 1982), pp. 47-52.

from the service zone of the Port of Baltimore. These possibilities are not remote. The other ports are in often intense competition and Baltimore does compete for the Midwestern hinterland with the Port of New Orleans over much of the rail cargo (or barge cargo). New York is becoming aggressive for container export cargo. Such situations can become critical.

It would appear that with new facility development, particularly disposal of dredge spoils, federal environmental laws have been complied with after long discussion and planning. Within the operating sphere of the actual transportation facilities on the land side there is concern about the speed with which roads will be rehabilitated or maintained, and what that might do to port access. Not a significant factor, it is just a question of how fast the scheduled programming can be accomplished before further deterioration is allowed to set in. Other sectors of the Northeast have far worse highway infrastructures.

Dredging had had restrictions that have slowed it up but there seems to be more a policy problem of finance at this point than environmental clearances and permits, whether federal or state. Originally counting upon federal funds since 1971 to finance the dredging of access channels to the port, and the Chesapeake Bay from forty-two feet to fifty feet, the money has all but disappeared in the Congressional budget process. The capital plans still exist, the need still exists, and the funding is carried as required on the books, but it has not been actually supported. This is a continuing open question tied to port user fees and transportation system user fees.

Dredging, as important as it is to Baltimore, has been authorized since 1971. However, it was not until 1980 that actual environmental court battles were completed that permitted the projects to proceed. The original cost was projected at $420 million to handle 130,000 dead weight tons-class ships. The cost has at least doubled, if not trebled, according to some observers. In spring, 1982 one proposal had a fifty-fifty relationship for funding federal and private costs of the dredging. This was included in proposals by Representative Biaggi. If the split does not occur, "it is said to be unlikely that Baltimore will be dredged at all."[16]

Although such activities as dredging new port construction and increased rail operation in the case of Baltimore, do not seem to have generated an extreme amount of public reaction as in other port locations, it is an underlying concern for environmental impact. The dredging activities seem to have been resolved successfully with the future creation of the beach and wildlife preserves.

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[16] Richard Peckham, "United States Ports and Dredging--Unscrambing the Gordian Knot," International Bulk Journal (May, 1982), pp. 9-13.

Due to the Chesapeake Bay locations, the port has potential concerns with the operational impacts on the natural environment in the Bay. The seafood harvest, particularly shellfish, is well known and a hallmark of the culture and heritage of the Baltimore/Maryland area. These have been protected satisfactorily and are not negatively impacted, it would appear. Under the Coastal Zone Management Act of 1972 the federal government has designated various areas that would be national estuarine sanctuary programs. Twelve have been established and one is the Chesapeake Bay National Estuarine Sanctuary. When these are completed, two of the initial projects will be in Maryland. They are the Muddy Creek portion of the Rhode River and the Monie Bay, representing the western and eastern shore, respectively.

Maryland is one of the states which has been delegated federal authority to issue permits for the discharge of any pollutant into navigable waters (Federal Water Pollution Control Act, Section 402, and the National Pollution Discharge Elimination Systems).[17]

At the state level there are several regulations relating to the port. For air quality, the state Department of Health and Mental Hygiene code exempts ships for fuel burning equipment and stationary internal combustion engines emitting particulate matters, sulfur oxides, and nitrogen oxides.[18]

The truck and rail carriers to the port of Baltimore area encountered a variety of contacts with the intergovernmental policies discussed here. No major theme comes forward. However, one large rail carrier believed federal economic regulations were of concern, along with federal and state air pollution controls. Traffic regulations within the urban areas of Baltimore county and city were considered also an issue, but to a lesser extent. The principal commodity carried by this railroad was coal, with grain and containers in second and third place. Truckers, on the other hand,felt that principal regulations of concern included harzardous materials (Pennsylvania), traffic (federal and Baltimore regulations), licensing taxes, and fees (federal restrictions, New York State and Pennsylvania). Another considered size and weight to be of concern. Almost all carriers felt that they were hindered frequently procedurally, operationally and economically. Most carriers anticipated the same concerns to extend forward to the Year 2000. Deregulation has had some interesting impacts upon them. The rail carriers

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[17]Council of State Governments, The Book of the States, 1982-83 (Lexington, Kentucky: Council of State Governments, 1982), pp. 606-607.

[18]Maryland State Code, Title 10, Department of Health and Mental Hygiene, subtitle 18 Air Quality, Chapter Nine, Control of Fuel Burning Equipment and Stationary Internal Combustion Engines, pp. 1168-1175.

felt that there has been decreased hosts or no effect, while several truckers believed that costs increased. All said that rates decreased. All felt that competition was more intense, while customer service for the truckers was worst, but better for several railroads. Delivery speed seemed to be somewhat better for one railroad and one trucker, and slower or no effect for the others. All uniformly felt that there was no change freight spoilage where applicable. Productivity was generally higher or underwent no change. They felt the opportunity for business growth was greater. Agencies which seemed to do the most to foster trade for the transportation companies included the state port administration, local and state governmental agencies, federal Department of Commerce, and rate making agencies and safety agencies. Generally the carriers felt that the principal improvement for regulations would be to reduce the number of regulations and to increase administrative flexibility. Others considered consolidating regulations as very important, and creating in one case an intermodal agency. This information is drawn from contacts with four trucking and two railroad carriers.

Policy Issues

The intergovernmental policy issues Baltimore will encounter, if not already, include the: export commodities; role of the carriers; logistical network; financing and cost of that network; role of labor; harbor facility capability to carry the heavier size cargo; role of the port in terms of owning and operating, versus owning and leasing, or encouraging just leasing; and lastly, competition with other ports.

By all indications, Baltimore will be in an excellent position for the resurgence of the coal and agricultural export market. To the extent that the United States manufactures what will be sold abroad, much of that material will move by container. It is in a good position for the future growth of the container industry already and has plans underway. The public and private facilities within the port and surrounding complex are not well positioned for coal whenever the demand recurs. There will be problems with the infrastructure of getting the cargo to the port, not so much in logistical capability but in terms of surrounding impacts. Coal will need new terminals, funding for the terminals, new trackage and yards for the unit trains and special attention to the crossing situation and impacts in dense urban areas.

Financing these facilities and the cost to the shippers remain long term issues. Under deregulation considerable flexibility is possible. This leads to intense competition and it is already evident. The Port of Baltimore may through railroad or trucking combinations lose its cargo primacy in certain areas to other ports. Deregulation has considerably helped general cargo still moving by boxcars. For example, the I.C.C. has decided to deregulate boxcars for all commodities except non-ferrous recyclables. The purpose of this deregulation, according to the

recyclables. The purpose of this deregulation, according to the Commission, is for "the pricing of boxcar service to become simpler and more adaptable to changing market conditions may lead the railroads to compete more effectively with the trucking industry."[19]

Competition to the railroads for carrying much of their cargo, that is coal, may well come from slurry pipelines. At the moment none seem to be particularly targeted for Baltimore. But there is no reason to assume why there could not be, given the technology and water supply in the area. What this may mean is that the existing railroad system in support of the coal activities would be quite hurt by the diversion of traffic. According to the Association of American Railroads' President in a nationally broadcast debate, a "massive fiscal disaster" could happen in the rail industry, equal to the Penn Central problem in 1968. All this would occur if legislation for coal slurry pipelines is passed granting them "eminant domain", assuming that they would be built. The total impact is quite high if coal traffic is lost; "what we are talking about is the threat of a billion and a half dollars a year in net operating revenues."[20]

A key issue is dredging and port capability to handle larger coal ships. Baltimore will not be in a good position if it cannot receive the larger ships. It is not unique, that is, not different from other major ports on the Atlantic and Gulf Coasts in this regard. Federal legislation has been proposed in the last couple of years shifting the cost burden from the Corps of Engineers to users. Any would hurt the port. The more the burden is shifted to the local level, the more difficult it is to arrange and assemble the finance package. As a result, debate is heated in the Amemrican Association of Port Authorities port membership. Baltimore is watching the development of legislation very closely and participating in the Congressional discussions.

In the port area, most facilities are developed and new container operations have already been brought on line. They have sizeable expansion potential. The port is preparing for a doubling of capacity by the year 2000 to ten million tons for container cargo. Three other facilities are planned for container freight. They include additional capacity at the Dundalk Marine Terminal (completely new facilities adjacent to it--SEAGIRT,-- to be operational in 1987) and the Masonville Marine Terminal across the harbor in Sea Girt (to be operational in the early 1990's).

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[19]Association of American Railroads, Rail News Update (May 4, 1983), p. 1.

[20]Association of American Railroads, Rail News Update (May 4, 1983), p. 4.

The port wishes to convert its role somewhat from both a builder of infrastructure and superstructure for lease to private operators, to only a builder of the infrastructure and a leaser. The private terminal operator would actually construct the superstructure. This is an important distinction because it requires less front money from the public agencies, and the capability to do things (perhaps faster and cheaper), by the private sector through public agency involvement. In effect, it would help share the cost burden for developing new activities and shift more to the user. It would allow for lower capital requirements from the public agencies involved and less stress upon higher leasing costs(to recoup the high front capital cost). Clearly, the risk would be shared for new facility development and operations. The port administration believes that:[21]

An interesting aspect of the port's operation is its inclusionas an operating department the Maryland Port Administration within the Maryland Department of Transportation. As a state agency, in effect, it does not have full control over its revenue and expenditures. It seems to be viewed by the larger state-level operations as a money-making machine for redistribu tion to other modes. This process may cause competition, if not outright disagreement over what to do with key port developmental issues. For example, if the port wished to significantly expand a container operation, the capital required might be greater than current funds set-aside. In the competition for available funding, would supervening state agencies be allowed to designate the additional funds for port expansion? Given possible later state fiscal pressures in other transportation and non-transportation functions? This is not idle speculation. Although not immediately obvious and evident in Baltimore, it is a potential. All other ports in the nation may be facing similar pressures. Ports, as governmental operating jurisdictions, especially those more insulated and semi-autonomous from mainline general government, may begin to feel the pressure from their parent and related state and local agencies to take in money wherever found.

At the moment no immediate aspect is hampered by the existing intergovernmental framework. When the coal export boom was promising gigantic volumes then the urgency was most evident and concern quite high. As indicated elsewhere in this report, world studies and the economy do suggest that the boom has been delayed. The long term demand will be there but it may not easily reappear, compared to the heyday of 1979 and 1980 and in part, 1981 for export coal movement. This somewhat downscale side may be a time when plans can be more easily and thoroughly formulated for development and coordination obtained so that what

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[21]"The Great Berth Day Celebration," Transport 2000, (Baltimore: 1982),p. A-7.

might have been severe bottlenecks and barriers in the regulatory structure could be dealt with at a more leisurely and effective scale. This is an opportunity, but it requires political and fund commitment to have things ready to go on the shelf, when the need for reinstituting the facilty develops.

Another issue is not so much law but existing labor practice. Baltimore originally was a general cargo port and still is, thus the great stress upon container freight. Over the years the labor unions developed more in the railroad domain (and not so much the traditional maritime unions) because the railroads controlled the port and terminal operations. Labor costs, work rules and retirement funds were very strong and expensive, according to the port. With the phasing out of the railroad operations for general cargo and ownership of the lands and terminals in the current port area, the role of the labor unions began to diminish. Adding to this change were container technological breakthroughs. Containers do eliminate the need for labor-intensive freight and cargo handling and hold costs down quite singificantly. This is an area in which Baltimore is enhancing its strength and has developed the second largest container facility on the East Coast. But, for those labor unions still operating in the area for general cargo, they do have the capability to impact port operations both in terms of expense, productivity and work stoppages. These are tied to the labor situation throughout the entire Atlantic Coast, especially the Northeast. General changes affecting one area probably will affect all the others.

To the extent that the port is affected by labor agreements its competitive cost position may be influenced. Most Northeastern ports experience the same bargaining process and scope of agreements and costs. Their geographic position to the Midwest breadbasket, natural resources and industrial production may be offset by lower labor costs of Gulf Coast or West Coast ports. There is not hard information currently available showing the difference, however it is another factor to bring into calculation. In the future this is an issue that should be closely watched. Still, the port is more a bystander than an active participant in this process and it must suffer through the developments generally affecting the private operators, along with its own general cargo and container facilities.

Port of Hampton Roads
(Norfolk-Newport News)

Hampton Roads is a collection of cities and urbanized portions of the tidewater area of Virginia. The cities of Newport News, Norfolk, Portsmouth and Chesapeake and their surrounding areas comprise the port area.

Due to proximity to the coal fields of West Virginia and surrounding fields, and to a favorable rate structure, Hampton Roads is by far the largest coal handling port in the U.S. For

most other commodities including containers, there is heavy competition along the Eastern Seaboard--but coal is the domain of Hampton Roads.

Port officials are not resting on the lead they have in a very profitable enterprise. All the ports of Hampton Roads have been brought together under a common public authority--an enterprise of the Commonwealth of Virginia. Additionally, they are organizing all operations under a common board. This is permitting each individual port to emphasize its specialization and not compete with each other, but better enable them collectively with the other East Coast ports.

As described by the port literature, the area is rich with American heritage:[22]

> Virginia was America's first port. From the start of its record keeping, with the landing of a small group of hardy settlers at Jamestown more than 372 years ago, Virginia has held a key position among the major ports of the world. The early settlers came to the New World not as adventurers but as representatives of the London Company to engage in a commercial venture. Their first imports were the bare necessities for living, and their early exports included the important commodities, tobacco and iron. Today, tobacco and iron, and steel scrap remain among Virginia's important export commodities. During the period from 1607 through the end of the 18th century, the Virginia colonists built up a lucrative three-way trade between America, Great Britain and the West Indies. Hampton Roads, then and now one of the world's finest natural harbors, was the leading American port of that period.

The Virginia Port...[23] "authority was established by an Act of the General Assembly, which was approved February 18, 1952 (Chapter 10, Title 62.1 Code of Virginia, Virginia Port Authority as amended) for four basic purposes:"

(1) To effect a port consolidation of the terminals within the State and to promote a spirit of co-operation among the cities in the interest of the port as a whole;

(2) To initiate and plan development of the ports and to keep abreast of their requirements and needs;

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[22]Virginia Port Authority, Port of Hampton Roads Virginia, Facilities and Services (Norfolk: 1982), p. 1

[23]Virginia Port Authority, Virginia Port Authority Annual Report 1979-80 (Norfolk: 1980), p. 1.

(3) To seek to improve Virginia's navigable waters where economically justifiable; and

(4) To do and perform any act or function useful toward development of the ports and the increase of commerce through the ports."

In accordance with the legislation, the four main ports of Norfolk, Newport News, Portsmouth and Cheasepeake were consolidated with the five ports of Alexandria, Richmond, Hopewell, Yorktown, and West Point. The U.S. Navy facility at Newport News is one of the largest in the world.

The Virginia Port Authority is directed by a fourteen member Board of Commissioners, located in Norfolk. As a state agency, the port executive staff are governmental employees. The VPA provides a single, unified development and promotion program for the combined facilities. It also "helps promote privately-owned marine terminals in Virginia which are operated for public use."[24]

The VPA's financial condition is sound with over $190 million in assets.

An important part of the port management is the fact that there was "intra-port competition for business and for port development funds." Unified terminal management is designed to avoid the problems of landlord relationship and charge to an "organization running the show."[25]

Formed by the confluence of the James, Nansemond and Elizabeth Rivers, the port of Hampton Roads (Map VI-2) has an area of twenty-five square miles, with ample deepwater anchorage for ships of nearly all sizes and classifications. Hampton Roads ranks first in the United States in volume of export cargo, and is first in terms of total foreign trade tonnage handled. The majority of the ocean-going U.S. exports of coal move through the Port of Hampton Roads.[26]

There five major terminals: Norfolk International Terminals, Portsmouth Marine Terminals, Newport News Marine Terminal, Lambert Point Docks, and Suell Point Docks. Norfolk International Terminals is operated by VIT and is the largest general cargo facility in Hampton Roads. It is primarily a container facility, with three container berths and four container cranes. Portsmouth Marine Terminal is operated by

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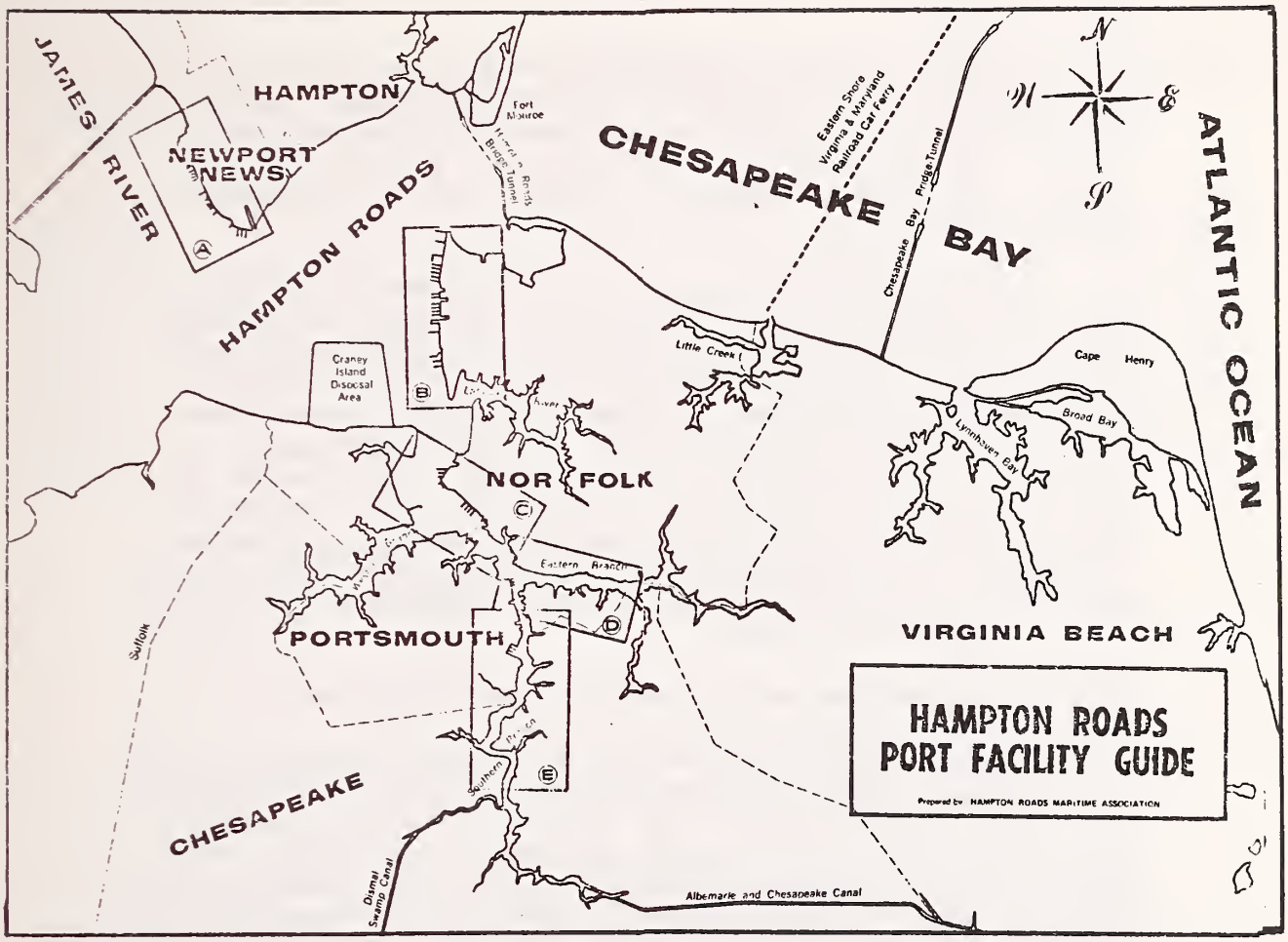
[24]Virginia Port Authority, Facilities and Services, op. cit., p. 1.

[25]"Unified Port Goal at Hampton Roads", Container News (October 1981), p. 38.

[26]Virginia Port Authority, Facilities and Services, op. cit., p. 1.

MAP VI-2



Portsmouth Terminals Inc. under a lease agreement. It is a multi-purpose facility with emphasis on containers, and has two container cranes and one gantry crane. Newport News Marine Terminal is operated by VIT, with one pier operated by Tidewater Stevedoring. The Pier C container berth has been extended to 936 feet. It features a 40-ton and a 200 ton container crane. Lambert's Point Docks is operated by a lessor. It is primarily a break bulk facility. Sewell's Point is also operated by a lessor, and has two piers, each 1,200 feet long.

Major changes took place in the operation of these facilities.[27]

The Virginia General Assembly approved legislation early in 1981 designed to put all of

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[27] Ibid., p. 2.

the general cargo facilities in Hampton Roads under the effective control and ownership of the Virginia Port Authority.

Newport News Terminal (NNMT) and Norfolk International Terminals (NIT) are currently under the control of Virginia International Terminals (VIT), the non-profit organization formed by the Virginia Port Authority to operate its terminals in Hampton Roads.

Negotiations are currently underway with Lambert's Point Docks, Inc. (LPD) and Sewells Point Docks (SPD) to bring these two terminals, operated by Norfolk & Western Railway Company, into Virginia International Terminals. Also, by 1985 Portsmouth Marine Terminals (PMT), will also be operated by Virginia International Terminals. Thus ends a history of competition among the ports within Hampton Roads; port unification will become a reality, enabling the Port's leadership to concentrate on competing with our neighboring ports to the north and south.

More progress was made towards consolidation.[28]

Mandated by the Virginia General Assembly, VIT's first phase includes the operation of Newport News Marine Terminal and Norfolk International Terminals. The unification program anticipates the inclusion of Portsmouth Marine Terminal, Lambert's Point Docks and Sewell's Point Docks in the future. VIT was incorporated July 1, 1981 as a non-stock, non-profit corporation formed to unify opereations at Hampton Roads' five general cargo terminals. Over 50 percent of the general cargo at Hampton Roads is handled by NNMT and NIT.

Port officials believed that:[29]

The terminal unification will not affect Hampton Roads' role as America's coal port nor boost its grain and petroleum traffic, but VPA planners say it should increase the volume of general, or merchandise, cargoes.

Unification was accomplished during a year when a recession reduced international business,

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[28]"Southern Ports Healthy Despite World Recession, Container News (January, 1983), p. 34.

[29]Hampton Roads Maritime Assoc., Ports of Greater Hampton Roads Annual (Norfolk: 1982), p. 6.

and dropped the port's total tonnage about four million tons below the 1980 record of 67 million tons.

According to the port authority chairman, the unification will eliminate competition and allow each terminal to fulfill a specific role in meeting their port's total cargo demand.

Differing with the port authority's picture of economic health, the president of the Boston Shipping Association, contends that many regional ports face possible bankruptcy.[30] "The majority of the 15 East Coast and Gulf Coast regional container ports, including Boston, face bankruptcy during the next three years...The bankruptcies could have dire military as well as economic consequences." These remarks were made by Mr. Arthur Lane as the keynote speaker at the Fall Conference & Shippers' Dialogue of the Containerization & Intermodal Institute. He further stated,

> A shortfall of $100 million faces the regional ports (due to) the inability of port management to deliver to local longshoremen the earnings promised by a national contract.
>
> ...the effect of technology is just beginning. There will be only two ports on the East Coast and two ports on the Gulf. There will be no more direct calls to the outports. It will all be barged from the two ports.
>
> Philadelphia has already requested a minimum of $6 million to meet its shortfall during the 1981-83 period, and Hampton Roads, Virginia has applied to its Job Security Program carrier for a $2.5 million shortfall, which has been denied. Three Gulf of Mexico ports are in similar financial straits, Lane said. Portland, Maine closed all its general operations, breakbulk and containers, last May.

Major among the facilities of the Hampton Roads port is the extensive coal handling facilities. It is most advantageously located with respect to the vast coal fields of Virginia, West Virginia and Kentucky. The Norfolk and Western Railway Company (now part of the Norfolk and Southern) and the Chesapeake & Ohio Railway Company (now the CSX) carry coal from these fields to their ultramodern ship loading facilities in Norfolk and Newport News respectively for export overseas.

Additional coal-loading facilities are currently under

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[30]"Marketing Program Underway for Hampton Roads," WWS/World Ports (February-March 1982), p. 3.

construction in Hampton Roads and include:[31] A.T. Massey and Dominion Terminal in Newport News and Patrick Coal Corp., Inc. on the southern branch of the Elizabeth River in Chesapeake. The Virginia Port Authority has plans for a super coal export terminal in Portsmouth.

Major grain-terminals are also key elements of the Hampton Roads complex. Agrigold completed such a facility in 1982 which includes two seven-story grain storage silos and a 6,200 square foot building on Pier 8 which houses its elevators, truck pit and grain cleaners. Cargill, Inc. which is located on the Southern Branch of the Elizabeth River, completed a $19 million addition to its grain exporting facility in recent years. Twenty-seven new concrete silos for storage were added. Their annual loading capacity has now been increased to 200 million bushels of grain.

Considered by the port as critical to their operations are facilities that enhance the operation but are not part of the port itself. These include approximately 135 interstate and instrastate motor lines which feed the cargo ships calling at Hampton Roads. Trucks haul approximately 75 percent of the general cargo traffic. More than 85 steamship lines serve the ports of Virginia, and offer regularly scheduled service to all parts of the world. The Hampton Roads complex ranks second only to the massive New York-New Jersey port complex in the number of ship sailings per month.

The planning process at Hampton Roads might be characterized more as looking at the macro scale of operations. A reasonably specific area of operation has been carved out for each of the five ports in Hampton Roads with some overlapping, but which is held to a minimum as one looks at future port growth. This decision will be strengthened by the placement of a future coal handling facility in Portsmouth. This land-extensive operation will fit well with the general characteristics of coal handling but would be too expansive in its requirements for placement at a location where a higher value per square foot might be required. Such functions are thus separated through the long term decision to develop unique operations under the auspices of the Virginia Port Authority and ultimately under the operating control of the Virginia International Terminals.

The regional planning commission, the Peninsula Planning District Comission, does not have a principal involvement in port planning. The PPDC is a resource agency for population, land-use movement projections.

Numerous state agencies have jurisdictional involvement as relates to the ports including the State Air Pollution Control Board, the State Water Control Board, the Council on the

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[31] Hampton Roads Maritime Assoc., Port of Greater Hampton Roads Annual (Norfolk: 1983), p. 22.

Environment, the Division of Energy Regulation of the State Corporation Commission and the State Department of Highways and Transportation. However, these generally have a regulatory function rather than specific port planning as their mission. The interaction of these groups with the port is rather obvious and will be discussed further in a subsequent section dealing with the regulatory framework.

The Port of Hampton Roads is expanding in two separate directions. First, through its unification program of the five principal ports into the Virginia Port Authority and subsequent unification of operations through the Virginia International Terminals, the port is expanding from a management sense. Second, it is expanding by creation of new facilities such as the proposed coal-handling facility.[32]

> The Port of Hampton Roads was the leading East Coast port during the year 1980, handling over 65 million tons of waterborne commerce. Coal accounted for 50.6 million tons, a near-record year for coal dumping from Hampton Roads.
>
> The surge in demand for American coal has prompted the planning and development of several new coal export facilities in Hampton Roads, some of which are currently under construction. With six new facilties being developed, the total throughput of coal will more than double in Hampton Roads, already the world's largest coal export port."

But these plans may be suspended, given the slowdown in exports.[33]

According to port officials in Norfolk, the entire question of "who pays" and "who gets" with regard to port dredging is very much up in the air. The port would very much like to go to a 55-foot depth to accommodate the large colliers. This would help to keep the coal trade through the U.S. and specifically, through Hampton Roads and out of Austrailia and other producing countries. It also makes sense as another ingredient in the equation of coal unit trains and the ever-increasing coal storage and handling facilities.

In 1980 nearly $13 million were expended to extend the 35-

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[32] Ibid., p.6.

[33] Subcommittee on Energy and Mineral Resources of the Committee on Energy and Natural Resources of the United States Senate, Ninety-Seventh Congress, Second Session on the Condition of American Coal Ports (Washington, D.C. September 16, 1982), p. 110.

foot channel 1.5 miles upstream in the Southern Branch of the Elizabeth River. One of the principal hurdles to a major dredging operation is the displacement of the dredge material. Environmentalists argue that its relocation to other water sites dispoils natural habitats as it would by placement on land locations. Generally, the best location, albeit diseconomic, is placement many miles out at sea. Following a study, however, VPA officials have located a site on the Newport News Bar as a possible supplemental disposal area for select dredged material to help offset this problem. The following exhibit illustrates the pattern by which the VPA would like to dredge its harbor to a depth of 55 feet.

The port is not embarking on any long range plans to change its current method of doing business. The vast majority of its export tonnage is that of coal. This will continue into the future as will the relatively smaller allocations of facilities to ro-ro operations, containers handling and other general cargo.

The port unification program will serve to strengthen the tie between individual port facilities at VPA and the commodities handled through each. Rather than changing over to some other emphasis, VPA intends to enhance its strengths. Such philosophy has played well for export over the years, excepting the world-wide economic slowdown in 1980-82.[34]

> Total bulk cargo trade for Virginia ports was down 3.9 percent to 59,985,767 tons during 1981. Imports were down 29.9 percent under the 1980 level primarily due to a loss in petroleum products trade. Export trade was up slightly to 54,289,210 tons (less than 1 percent) above the previous year. The tremendous worldwide demand for coal has continued and is responsible for the vast majority of bulk movements. Coal, at 47,662,017 tons, is close to the record 51 million tons loaded during 1957 when the Suez Canal closed, resulting in a shutoff of crude oil exports from the Middle East. Japan continues to be the number one recipient of coal with 10,140,935 tons. Italy is second with 6,985,564 tons, and France is third with 5,876,164 tons.

Table VI-3 identifies the leading export commodities through the combined ports of Hampton Roads.

Bottlenecks and Barriers

Much of the infrastructure in the East is old, worn out and

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[34]Virginia Port Authority, Foreign Trade Annual Report (Norfolk: July 1, 1982), p. 6.

in dire need of replacement. Neither the state and local governments nor the federal etablishment have funding enough to address the order of magnitude of this problem. Roads and highway bridges are crumbling. Rail lines have many miles of trackage below design standards, including bridges and rail/highway safety protection.

The principal bottlenecks were related to coal-export. Numerous unit-coal trains through the country-side disrupt crossings. At the height of the export demand, ships were backed up in the harbor. Channel size and dredging have been concerns, because ship drafts are requiring greater depths.

In the state are 353 public rail-highway grade crossings on heavy coal traffic routes. To improve them for separation, about $50 million is needed.[35]

As with all ports, the permit-granting process is a long and cumbersome bottleneck to doing business, albeit an essential step to protect the public and to protect the environment. The President's Task Force on Regulatory Relief has looked closely at a wide range of bottlenecks in the governmental review process, not only at ports, but across the board in many segments of private vs. public interaction.[36]

> Regulatory reform is an important element in the expediting of projects. In the interest of reducing uncertainly and delays while still responding to the environmental concerns, the administration has initiated a major regulatory simplification program to process Corps of Engineers' permits on a shorter and more predictable timetable for work in ports and waterways, as well as other areas.
>
> In the permit area, the Army and other Federal agencies have been directed by the Presidential Task Force on Regulatory Relief to establish shorter review periods, new interagency agreements, broader use of general permits, and to redefine and clarify the jurisdictional reach of the regulatory program.
>
> The tabulation of statistics given below shows that, even in cases where there are absolutely no objections, permit processing time averages over

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[35] Subcommittee on Energy and Mineral Resources of the Committee on Energy and Natural Reousrces of the United States Senate, Ninety-Seventy Congress, First Session on the Condition of American Coal Ports (Washington D.C. December 3, 1981), pp. 283-289.

[36] Office of the President, Report of Regulatory Relief Task Force (Washington, D.C.: 1982).

TABLE VI-3

port commerce

PRINCIPAL EXPORTS THROUGH THE PORT OF HAMPTON ROADS
BY COMMODITY
Years 1980-1981
(In net tons of 2,000 pounds)

Commodity	1981	1980
Food and live animals	**4,804,045**	**3,708,541**
Meat, fresh, frozen or preserved	17,547	14,234
Wheat, including spelt, or meslin, unmilled	1,044,399	652,750
Barley, corn or maize, oats, unmilled	3,426,377	2,779,629
Fruits and vegetables	40,972	24,058
Animal feed including oilseed cake and meal	261,897	207,188
All other commodities	12,853	30,682
Beverages and tobacco	**180,005**	**228,212**
Tobacco, unmanufactured	97,002	160,013
Tobacco manufactures	71,778	57,843
Beverages	11,225	10,356
Crude materials, inedible, except fuels	**1,419,963**	**1,317,850**
Nuts, soybeans, flour and meal of oilseeds	1,117,724	924,229
Rubber crude, including synthetic and reclaimed, etc	33,905	54,527
Sawlogs, Woodwaste and Wood Charcoal	25,779	34,583
Poles, Piles, Posts and Lumber	38,845	28,953
Pulps and waste paper	61,357	81,408
Waste materials from textile fabrics, rags	55,525	47,214
Crude fertilizers and crude minerals, n.e.c.	22,454	17,928
Iron and steel scrap	51,624	71,988
Ores and concentrates of nonferrous base metals	7,506	22,287
All other commodities	5,244	34,733
Mineral fuels, lubricants and related materials	**52,245,527**	**48,954,595**
Coal (anthracite and bituminous)	52,007,067	48,628,956
Petroleum and petroleum products	227,583	7,331
All other commodities	10,857	318,298
Oils and fats, animal and vegetable	**130,199**	**155,814**
Animal oils and fats, including wool grease	46,658	46,030
Soybean oil, except hydrogenated	72,001	90,818
All other commodities	11,540	18,966
Chemicals	**316,131**	**393,072**
Organic chemicals	18,380	17,023
Fertilizers, manufactured and fertilizer materials, n.e.c.	167,693	218,198
Synthetic resins, re-generated cellulose, etc	39,662	43,435
Chemical products and materials, n.e.c	7,124	13,067
All other commodities	83,272	101,349
Manufactured goods classified chiefly by materials	**340,148**	**433,703**
Wood & Cork manufacturers, n.e.c.	11,539	27,331
Paper and paperboard and manufactures thereof	93,791	136,596
Textile yarn and thread	59,684	59,248
Cotton fabrics, woven, not including narrow or spec. fabrics	11,153	11,728
Made-up articles, wholly or chiefly textile materials, n.e.c.	20,478	39,634
Nonmetallic mineral manufactures, n.e.c.	49,180	16,948
Glass and glassware	794	12,270
Iron and Steel	44,892	61,917
Aluminum and aluminum alloys, wrought or unwrought	11,568	14,960
Manufactures of metal, n.e.c.	34,013	39,896
All other commodities	3,056	13,175
Machinery and transport equipment	**337,633**	**363,501**
Agricultural machinery and appliances and parts	31,781	26,996
Machinery and appliances and machine parts	150,299	117,438
Road motor vehicles and vehicle parts, n.e.c.	73,116	96,372
Electrical machinery, apparatus, etc.	18,355	55,487
All other commodities	64,082	67,208
Miscellaneous manufactured articles, n.e.c.	**49,630**	**55,575**
Commodities and transactions not classified to kind	**2,105**	**2,627**
TOTAL EXPORTS	**59,825,386**	**55,613,490**

Source: Virginia Port Authority, Annual Report (1982), p. 10.

two months and can run as long as six months. If any objections at all are raised, regardless of the merits of the objections, processing averages nine months. Where environmental impact statements are required, it takes an average of over two years and can take up to four or five years to get a decision on a permit application. Over 5,000 individuals and businesss annually are subjected to the major delays and an additional 10,000 or so experience unwarranted delays of several months.

1981 Permit Requests

	Number	% of total	Avg. Time (days)
All permits	16,300	100	131
Permits without Objection	10,900	67	68
Permits with Objection	5,400	33	260
Permits with EIS's	30	<1	815

There is little variation from one port to another as to the impact of national legislation or regulatory agency guidelines upon daily or long-term operation. The same laws and restrictive covenances apply with little variation.

It is becoming more apparent that the principal areas of national regulation with respect to export trade is centered in the following areas:

Transportation from point of origin to port --
-- Trucking and railroad regulation/deregulation
Port operations and redevelopment --
-- Corps of Engineers permit process and EIR requirements for air and water protection

This study is being conducted at a time of rather auspicious change in the transportation industry. Both truck and rail industries have for many years been under broad regulatory control by the Interstate Commerce Commission--their entire perspective on management and operation stems from working in this closed environment. However, with the advent of deregulation, that environment is changing and with it the perspective of how transportation services can maximize their productivity.

In the 1980's the new environment will include:[37]

--deregulation of entry and rates
--user charges for waterways and ports
--more direct public participation
--cost availability of fuel
--widespread use of new technology

While viewed by many as a panacea for opening up economic opportunity in the transportation industry, not all regard this process with equal anticipation. "...Deregulation could be disastrous if used to 'cut each other up through lower and lower rates.' However, if railroads are innovative and take advantage of the trucking exemption as the pricing exemption, the result could be a new kind of product as well as improved productivity. Chessie's creation of Chessie Motor Express (CMX) and its integration with TOFC is an example" according to Mr. Jerome D. Krassenstein, Vice President-Marketing Services for the Chessie System.

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[37]Cheryl Grazulis Drugun, Assistant Editor, "Improving Productivity in Transportation," Handling and Shipping Management (September 1982), p. 93-94.

Deregulation could well be a sound step for the industry, though there may be potential trouble associated with rate making. The trucking industry representative indicated that this could well force the shipper to spend all his time shopping for the best rates rather than being able to rely upon standard rates. On the other hand, a spokesman for the Chessie System points out that "As a result of TOFC/COFC deregulation, it has become possible for railroads to issue price quotations to shippers on a daily, as-needed basis. Prior to this, one had to manually search through volumes of existing tariffs to arrive at an applicable rate."[38] This rail point of view is diametrically opposed to that of the trucking official. Each sees the freedom to set rates based on what the market will bear from very different perspectives--rail as an advantage to the shipper, truck--as an extreme disadvantage to the shipper. The Chessie' approach to price-setting stems from "...each SPQ (Special Price Quotation) is a specially designed price and service package tailored for a specific shipper, consigned and move. The SPQ offers a single price for a combined rail and truck move, via CMX (Chessie Motor Express, a Chessie System subsidiary)."

A completely different issue stems from the passage by Congress of the new gasoline tax which also set federal standards on truck weights, lengths and widths. The legislation specifically forbids states from banning double trailer combinations. According to one Hampton Roads port official "this should improve the efficiency of drayage and deliveries and hopefully reduce rates. On the other hand, the new taxes could have an adverse effect on rates and on the ability of some truckers to survive."[39] This perspective may appear somewhat narrow in its outlook--only what is good for the port. But what is good for the port must also be good for the shipper, for the motor freight companies and even for the motorists on Virginia's highway system over which these oversized vehicles must travel. An earlier cycle for road rebuilding will be necessitated as has been proved in numerous states, specifically Illinois, and this is bound to have an adverse impact upon tax dollar apportionment. Logic would suggest that as this imbalance increases, duties will be required of the carrier which in turn will be reflected in the freight rate--completing the circle.

The area of most concern to officials of the port of Hampton Roads would probably rest in the area of those environmental regulations which have an impact on the coal handling process. As this is the largest single commodity shipped through Hampton

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[38]"Chessie Has Introduced a Special Price Quotation System to Take Advantage of Price-Making Freedom," Container News (February, 1983), p. 16.

[39]Art Jacocks, "Traffic Talk," The Ports of Virginia Monthly Log (Norfolk:Virginia Port Authority February 1983), p. 8.

Roads, troublesome regulations which could impede daily operations in this area or which could stymie future capital development projects would be deemed by the port as bottlenecks or barriers to export through the port.

There are some important general environmental conditions related to coal export.[40]

> Coal dust represents the main impact of a terminal on air quality. Dust is emitted because of the aeration of the coal stream during handling operations and because of the effects of winds on the surface of coal in storage piles.
>
> Activities of the terminal that generate the most airborne particulate matter are:
>
> --Rail car dumping
> --Coal transfer from belt to belt
> --Belt conveying
> --Coal stacking
> --Coal reclaiming
> --Ship and barge loading
> --Coal storage piles
> --Mobile equipment operations
>
> Dust emissions can be minimized using the following techniques:
>
> --Sound overall design of the facilty (dust prevention)
> --Sprays (dust suppression)
> --Enclosures, guards, hoods, windbreaks (dust containment)
> --Dust collectors (dust removal)
> --Equipment washdown (dust removal)
> --Sound operating practice and maintenance (dust prevention)
> --Paving of roads and open areas (dust prevention)
>
> The effects of coal particles on aquatic biota is a subject of active research. Results to date are contradictory, but investigations show that the effects on water quality and marine life stem from the following processes:
>
> --Increase in turbidity

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[40]"Western U.S. Steam Coal Exports to the Pacific Basin Port and Marine Task Force Group," in the America's Role in the World Coal Export Market (Pacific Rim Outlook), First Session on the Demand of Pacific Rim Coal Consuming Nations, Hearing Before the Subcommittee on Energy and Natural Resources, United States Senate, Ninety-Seventh Congress (Washington, D.C.: U.S. Government Printing Office, December 1, 1981), pp. 295-304.

--Increase in sedimentation rates
--Changes in the acidity of the receiving water body
--Release of the chemical constituents of the coal

The drainage, treatment, and re-use of rainwater falling on a coal terminal must be carefully analyzed. As water percolates through coal it can dissolve various elements and minerals. Many techniques are in use for treating and recycling the stormwater runoff to minimize the effects on the groundwater and the receiving water body.

Coal leachate have been analyzed many times, producing evidence of its highly variable chemical compostion. Factors which affect the constitution of the leachate include:

--the concentration of pyrite and marcasite (iron ores) in the coal
--the configuration and area of the storage pile
--the amount of preparation and cleaning which the coal has received
--particle size of the material
--local meteorological conditions
--the concentration of calcium carbonate or other neutralizing substances in the coal
--the concentration of trace metals in the coal
--the residence time of material in the pile

Most of the machinery and operations at a coal terminal produce noise. Sources include:

--mobile equipment (trucks, bulldozers, front-end loaders)
--rail cars and trains
--ships
--conveyors
--stackers
--loaders
--reclaimers
--feeders

Many methods are used to design facilities that will be in compliance with the relevant noise standards. Examples are to:

--site the facility away from noise-sensitive populations
--establish the noisiest operations away from the periphery of the site
--provide a buffer zone around the site
--use accoustical barriers, such as vegetation, screens and berms
--schedule rail and truck operations during daytime hours

--use mufflers on all mobile equipment and trains
--use continuous welded track and track lubricators
--use enclosures to muffle sound, such as buildings around car dumpers
--purchase equipment that has been designed to function more quietly

These are the principal environmental considerations associated with a coal handling facility. There is a broad potential for infractions of environmental standards, therefore, proper siting and sound designing are key elements in establishing an operation that will satisfy these regulations.

This is of prime concern due to the interest on the part of the Virginia Port Authority to construct a ground storage facility in Hampton Roads with an annual throughput capacity of of eighteen to twenty-five million tons and designed to accommodate vessels with a fifty-five foot draft. Consolidation, Pittston, A.T. Massey, Island Creek, United, and Inter-Mountain coal companies have expressed interest in participating in the facility's development. All of the potential problem areas for environmental impact would need to be mitigated for this project.

For the subject of this study, the nature of regulations does not change markedly between states. Typically, these include those dealing with the environmental concerns associated with the operation of the port facilities but more acutely with any expansion plans; those associated with permit granting for port expansion; size, weight and speed restrictions affecting truck delivery to the port; market entry and rate making for both the truck and rail industries; and, the same environmental concerns for any plans to build new, relocate or rebuild the pathways for the transportation of goods to the port--the rail lines or the highways.[41]

> The Virginia Corporation Commission indicated that their regulatory controls affect only intrastate movements, therefore, would not concern movements that were bound for export. But typically, the local or state regulations are often modeled after the federal example, the Interstate Commerce Commission in this case. Review of Virginia regulations in this sphere was not treated differently than intra-state traffic. The normal variety of regulations governing rail or truck transportation seem to apply. A major exception regards pipelines. Coal slurry pipelines may not have eminent domain:

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[41]"Creation and Powers of Public Service Corporations," Code of the State of Virginia, Chapter 2, Section 56-137 and 56-138, Richmond, p. 341.

...And provided, further, that notwithstanding the foregoing nor any other provision of the law, the right of eminent domain shall not be exercised for the purpose of acquiring any lands or estates or interest therein nor any other property for the construction, reconstruction, maintenance or operation of any pipeline for the transportation of coal.

And, for heavy coal trucks there real distance/weight restrictions:[42]

Special Permits:

(1) Coal Hauling Permits

Section 46.1-343, (c) of the Code of Virginia provides that the State Highway Commission shall issue permits upon application in writing made by the owner or operator of vehicles used exclusively for the hauling of coal from a mine or other place of production to a preparation plant, loading dock or railroad authorizing the operation of three axle vehicles having a gross weight not to exceed 60,000 pounds, a single axle weight not to exceed 24,000 pounds and a tandem axle weight not to exceed 45,000 pounds, and/or two axle vehicles having a gross weight not to exceed 36,000 pounds and a single axle weight not to exceed 24,000 pounds, and/or four axle vehicles having a gross weight not to exceed 70,000 pounds, a single axle weight not to exceed 24,000 pounds and a tri-axle weight not to exceed 50,000 pounds providing, however, no permit shall be valid for the operation of any such vehicle for a distance of more than 25-miles from such preparation plant, loading dock or railroad. (emphasis added)

Coal hauling permits shall not include travel on the Federal Interstate System of Highways.

The principal commodities carried by rail to Hampton Roads are coal and containers, and by trucks are chemicals, fiber yarn and general cargo. For the railroads the major concern was hazardous materials regulation (federal) and for several truckers the principal concern seemed to be size and weight restrictions (federal and state). One trucker said there were no problems at all with the regulations. Several felt they were sometimes hindered procedurally, operationally and economically by their principal concerns. They do not foresee serious concerns for the year 2000 in the same categories. For truckers, deregulation has increased cost of operations, but it has decreased for a key

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[42]Commonwealth of Virginia, Department of Highways and Transportation, Maintenance Division, Hauling Permit Manual (Richmond, May 1, 1975), pp. 45a-51.

railroad. Rates for all carriers decreased and competition has increased. Customer service has gotten somewhat better for two carriers and delievery speed has become slower for half. There has been no effect on freight spoilage and about half felt that productivity was higher and others, somewhat lower. The opportunities for business growth were perceived as generally less except for the railroad. The organizations doing the most to promote trade opportunities are the Virginia Port Authority and the federal Department of Commerce. Recommendations for the future include a railroad priority on consolidating regulations and reducing paperwork. However for the truckers, principal improvements would be an intermodal agency for transportation, speeding up the process for regulations and review, and reducing the number of regulations among others. This information is based on contact with one railroad and three trucking firms.

Policy Issues

The policy issues surrounding this port have a commonality with those of the other ports: Will foreign trade remain at high enough levels to allow them to prosper? Can they specialize to enhance their competitiveness? Will government tariffs, embargoes and treaties impair their functionality? And, will government regulation, for whatever public concern, be strengthened or reduced?

In Hampton Roads in particular, policy issues can probably be more specifically defined along the lines of the future of coal exportation. If there is a swing away from the use of steam coal by many actions due to regulations imposed on air quality emissions, or if mill labor over-prices itself in the production of steel from coking coal, then at issue is the concern that the major commodity flowing through this port would be reduced.

Such a scenario does not appear likely however. The United States appears to impose the most rigid air quality emissions regulations, therefore, steam coal shipped abroad should not suffer such potential reductions. In the case of coking coal, again, reductions due to the potential of labor costs making production non-competitive abroad is unlikely. While our labor market has over-priced itself in this industry, steel is now being produced in a number of the developing nations which have a large, mainly unskilled and low-paid labor force.

In discussions with port officials and through a rather comprehensive literature research campaign, it is not immediately evident that there are major concerns with regulatory or institutional rules or laws that impede the process of export through the Port of Hampton Roads. Like any entreprenuer, those involved in the process would like to see absolutely no controls that would restrain them in the slightest but would opt for those constraints that would provide them with a unique competitive

advantage--an attitude to be expected.

In place, through the state and federal governments, are the normal environmental laws and operational restrictions, i.e., right-of-way governances, that are common throughout the country--all of which provide daily and long-term adjustments to methods of operation. However, due to the supremacy of coal as the premier export commodity, and by such a large margin, major technological and legislative capabilities have been marshalled behind this industry to corroborate its ability to compete through this port nationally and compete in a world market to the fullest extent possible. By virtue of a single commodity orientation, for the most part, dealing with institutional and regulatory agency guidelines can be tailored internally by the port administration and by the terminal operators and shippers alike to customize the process.

Port of New Orleans

The Port of New Orleans on the Mississippi River is the true bellwether port for the agricultural and natural resource heartland of the nation. It draws upon almost the entire Midwest, and further upriver to the northeast and northwest sections of the central part of the country. The New Orleans community is sensitive to the relationship, in that for basically the last two hundred years the city has served as a cultural and trade headquarters for an incredibly large hinterland service zone. By its very nature as a result, it has had to be cosmopolitan, international and aggressive in terms of seeking commercial relationships and trade patterns. That style carries over to its port export operations.

The position and interrelationship become quite clear with the following port description of its current situation.[43]

> In 1982, Louisiana celebrated its tricentennial, commemorating the day in April, 1682, when the French explorer Rene Robert Cavelier, Sieur de La Salle, after making the first descent of the Mississippi River, discovered the mouth of the river and claimed the Louisiana territory for France. One historian noted, "at that location he thought he would be able to reap the riches of the interior." Although the city of New Orleans was not founded until some 35 years later, La Salle's vision has been borne out.
>
> Today New Orleans is at the end of a gigantic transportation funnel consisting of 19,000 miles of

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[1]Port of New Orleans, New Orleans--the Total Port (April, 1982), pp. 1-6.

inland waterways created by the Mississippi River, its tributaries and other systems. Through this network shippers located as far north as St. Paul/Minneapolis, as far east as Pittsburgh and Charlston, West Virginia, and westward to Tulsa, Oklahoma and Omaha, Nebraska, have direct all-water access to world markets via the Port of New Orleans.

In the vast American heartland 60% of the nation's farm products are grown, half of all manufactured goods are produced, and 90% of the country's motor vehicles, transportation equipment, and other machinery are built. Forty percent of the nation's consuming public live and work in this area served by the Port of New Orleans.

As an agency of the state, the port (Dock Board) has seven members, with the following composition: four must have the principal place of their business in Orleans Parish, two in Jefferson Parish and one in St. Bernard Parish. Four of the members are to be selected by nominating organizations. Three of the members have a similar procedure for their appointment by the other parishes, but for the Parish of Orleans this is very interesting and might well be considered as a model for many ports. For example, the parish nominating organization includes the following groups:[44]

Chamber of Commerce of the New Orleans Area
New Orleans Board of Trade Ltd.
New Orleans Steamship Association
International Freight Forwarders and Custom Brokers Association of New Orleans, Inc.
International House
Maritime Trades Council of Greater New Orleans and Vicinity
Metropolitan Area Committee
Louisiana Farm Bureau
New Orleans Cotton Exchange
International Trade Mart
Urban League of Greater New Orleans
Dillard University
Xavier University

In 1981 the port did very well. It handled a cargo tonnage totalling 58.3 million tons of foreign trade. (Figure VI-1) This is a 34% increase over the previous year. Of that amount, a great increase in grain and coal trade has accounted for the growth.

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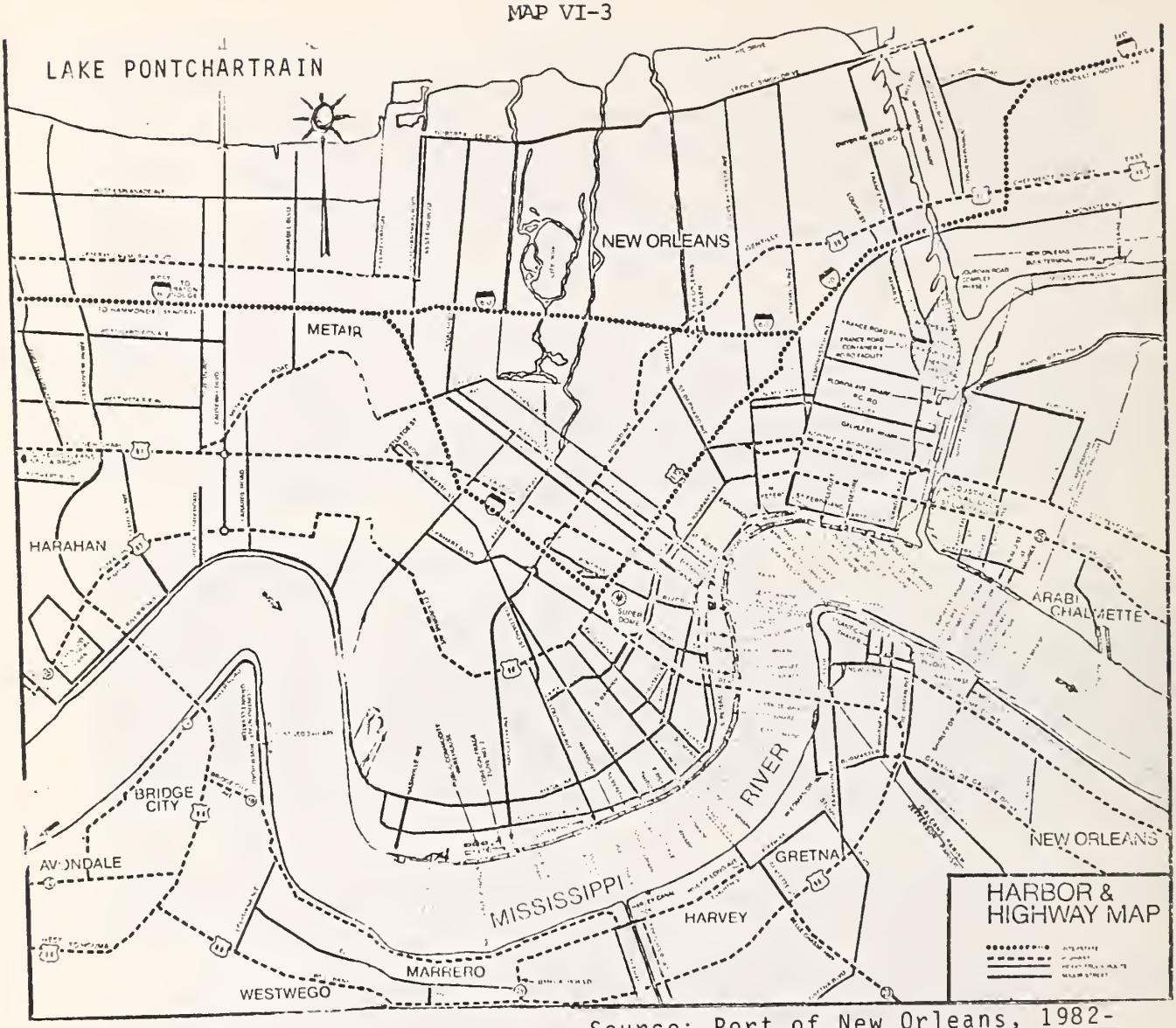
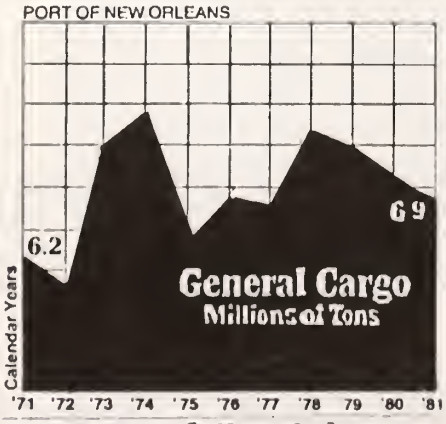
[44]State of Louisiana, Statutes of 1950, revised, Title 34--Navigation and Shipping, Chapter 1, Ports and Harbors (December,1982), pp. 1-11.

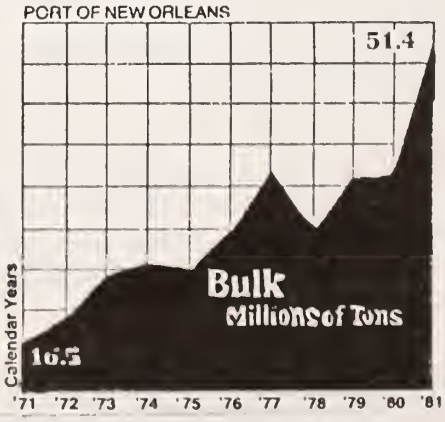
MAP VI-3



Source: Port of New Orleans, 1982-1983 Annual Directory, (New Orleans: Board of Commissioners of the Port of New Orleans), pp. 46-47.

Figure VI-1
Port of New Orleans Cargo





Source: Port of New Orleans, 86th Annual Report Fiscal 1982 (New Orleans: Board of Commissioners of the Port of New Orleans), p.4.

Grain exports were 19.4 million tons and coal reached 9 million tons. Total exports were 38.8 million tons.

All in all, the general cargo of the port has grown incrementally since 1971. For example, the 1971 volume was at 6.2 million tons, but by 1981 it was 6.9 million tons. In marked contrast is the growth of bulk commodities through the port. In 1971 bulk constituted 16.5 million tons, by 1981 51.4 million tons were handled by the port.

The port is served by trucking, rail, and barge transportation. Most of the freight tonnage reaches the port through the barge system. But the six rail corporations also carry a significant amount. They are strong, financially solid operations with transcontinental connections and run frequent, fast unit train and special cargo service.[45]

The port's plans generally include the rehabilitation of existing general cargo terminals for other, higher utilization applications. Some of these may include commercial site development for offices, hotels, and the World Fair. Others may include development as container facilities. The port is also cognizant of the need to create more river space areas, for barge fleeting and towing requirements. Some of the barge trains are one half mile long. In many cases as the barge unit (specialized and dedicated) trains come down the river from St. Louis where they may pick up more cargo, or barges, they are encouraged to stop at terminals just north of the city to do transfer or unload. Insufficient river space in the port area, intense through traffic and other water usage requires this diversion. It clearly would be easier for the barge trains to break up and reform north, that is, upriver, from the port and city locations. Much future emphasis is dedicated to the development of container facilities in the Jordan Road terminal area. There is also need to consider river front and water space for the LASH systems for the interface between barges and ships. The Inner Harbor Canal depth and locks require further improvements. Given the existing cargo developments more large capacity cranes will have to be installed. Port access will experience problems, given potential development and will need to address rail and highway expansion, as well as increasing bridge capacity across the river. The conditions do vary at different locations in the port. Generally though the relationship holds that the rail and highway access to the older wharves and riverfront is inadequate and deteriorating. To the extent the river front usage by general cargo declines as anticipated, this problem will become less severe. More modern and durable facilities for containers and other cargo can be constructed.

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[45]Louisiana, Board of Commerce and Industry, Louisiana Works (1980), pp. 1-9.

Bottlenecks and Barriers

The Port of New Orleans is not faced with severe bottlenecks or barriers in logistical operation as of the moment. Should the economy turn around, there are aspects that will be troublesome and will be of concern. Following the flow of goods and commodities from the point-of-origin to the port, a sequence of potential points-of-encounter becomes evident.

Wherever goods are produced they must be shipped to a central transportation point. Whether that is accomplished by rail, barge or truck, there is a general feeling that much of the local infrastructure is out-of-date, if not deteriorating in many areas.[46]

Once the cargo is on the river system there are several critical locations.[47] Lock and Dam 26 on the Mississippi would need a second lock. A new dam and lock is argued for the Gallipolis location on the Ohio River and replacement is necessary for the locks on the Monongahela as well as the Columbia and the Alabama-Coosa system. Nationwide, seventy-five actively used locks will be sixty years old at the end of this century. Some Corps of Engineers studies suggest that a second lock is desirable at Alton, Illinois and several new locks on the Ohio. For the entire inland navigation system one finding is that in 1977 money, $900 million yearly should be spent by the year 2000. The recent rate is $600 million a year. Some believe that operational design, and other non-capital modifications can increase capacity and "postpone" major reconstruction costs.[48]

The river, furthermore, is subject to seasonal travel conditions whether it be overflow, spring thaws, ice melts or just simply ice jams closing up the river in some locations. To the extent that river traffic is generated by Great Lakes applications,[49] there are even more severe operating conditions, with the Great Lakes closing up for three or four months a year

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[46] Nancy Berini, editor, Highlights--Maritime User Fees, Perspectives on the Upper Great Lakes, Conference, (January 13-14, 1983), Superior Wisconsin, pp. 2-3.

[47] U.S., Army Corps of Engineers, Hal Brayman, Assistant Staff Director, Committee on Environment and Public Works, U.S. Senate, The Current Legislative Status of Waterway User Charges, Speech, Urbana, Illinois (June 23, 1982), p. 5.

[48] Anatoly Hochstein, Bruce Barker, Ivan Zabaloreff, "Inventory of Potential Structural and Nonstructural Alternatives for Increasing Navigation Capacity of the Upper Mississippi River System," Transportation Research Record 1880 (Washington, D.C.:TRB, 1982), pp. 1-7)

[49] Berini, op. cit., p.3.

for barge traffic, and in many cases simply for actual freighter traffic.

In terms of the railroads to the port, there are locations where the railroad must use low-lying rights-of-way that parallel or cross wetlands, flood zones, and river banks. These locations are subject to extreme weather conditions. Heavy rains during the Spring, 1983 in the southeast and the lower Mississippi River Valley have caused record flooding and difficulty. The river in New Orleans area crested to levels higher than ever anticipated, according to recent reports.

On the river, there is the actual navigational difficulty of just getting down the river. Heavy traffic coming back up as well, shifting navigational hazards such as sandbars, shoals, low water, high water, and other normal but extremely difficult to manage river conditions are encountered.

When the barges or the rails reach the port there is for the most part little difficulty logistically. The facilities generally exist for large transhipment.

The normal process for exports intermodal transfer would be something like the following. Large barge trains would bring downriver agricultural or coal cargo. These barges would be pulled up alongside shore facilities that have technologically highly advanced scoops and conveyer belts designed to move down into the barge and pull out the cargo. The volume and speed are tremendous. In the case of grain, after the basic unloading is accomplished by the scoop-conveyer belt system, small bulldozers are loaded and dropped into the barges and used to scoop up the remaining amount. There is practically no wastage in the system.

In the case of agricultural products, the largest grain elevator in the area, operated by Continental, did blow up from a grain dust explosion in 1977 and reopened in 1981 as most modern, efficient facility.[50]

Rails have less of a difficulty. There is plenty of trackage and facility space in the port area. In fact, for general cargo, it is mostly underutilized and much of the rail space and wharfage space along the river can be reconverted to higher density uses for industrial park development, or office recreational commercial development. There is a specific difficulty in the need for new container facilities and the port has plans to develop a large new container facility and intermodal transfer point.

Volume is slack and capacity high, though, for getting cargo to the port.

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[50] Continental Grain Company, Fact Sheet--Export Elevator, West Wego, Louisiana, 1982.

Competition intermodally has become quite heated. New Orleans rail companies are advertising their special advantages. The Illinois Central Gulf Railroad is aggressively explaining that it can deliver coal from Illinois and Southwestern Kentucky, top grade coal, very quickly to New Orleans. For example:[51]

> Contrary to popular belief, eastern U.S.--or Appalachian--coal is not the most economical for European buyers to purchase.
>
> Today, the best buy in U.S. coal is in the U.S. midwest.
>
> Here, in Illinois and western Kentucky, there are 215,000,000,000 tons of recoverable steam coal. Much of this coal meets today's more stringent environmental guidelines. And it can be shipped to Europe faster and less expensively than coal from the eastern U.S.
>
> One reason is the Illinois Central Gulf Railroad. Operating from Illinois and western Kentucky to New Orleans on the Gulf of Mexico, the ICG can deliver midwest coal from mine-mouth to ship-berth in just two days--compared to Mississippi River barges that can take 7 to 10 days depending on river conditions and barge availabilities.
>
> Another reason is overcrowding on the U.S. east coast--with eastern U.S. ports so congested that demurrage has become an almost prohibitive factor. At the rate of $15,000-$20,000 per day, and with some ships waiting in excess of 100 days, total demurrage charges at Eastern ports in 1980 amounted to $1 billion.
>
> At the Port of New Orleans on the Gulf of Mexico, no such adverse conditions exist. And that means there are <u>little or no extra charges for demurrage, storage, product loss or damage, transit time, handling costs, or frozen coal.</u>
>
> So when you add up the true cost of getting coal out of the mine in the U.S. and into your combustion chambers in Europe, you'll find that coal from Illinois and western Kentucky is clearly the low-cost answer. To get all the facts, write....

The Port definitely is in competition with Baltimore and in the case of coal also, potentially, with Hampton Roads, so this rail-type of competition advertising is most significant.

Once in the port there is the industrial canal between the River and Lake Pontchartrain. The IHNC has several bridge and lock and depth limitations.

After the cargo is transferred to ocean-going ships, the ships must reach the Gulf. Depending on which route, the size of ship, Gulf access is a hundred plus miles downstream. There are

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[51] Advertisement in <u>International Bulk Journal</u> (January, 1982), p. 10.

depth and width limitations to the various channels. The key operating factor is that the depth is forty feet for the different channels. To meet this challenge, a ship may take on a part load of coal, grain, or containers, and "top off," downriver. In extreme cases if exports became a super crunch, then a model (but in reverse) is offshore unloading of supertanker oil imports. The technnology exists and a facility is in operation.[52]

The lock and dam deterioration is significant. Inland waterway traffic is forecast to increase between 1977 and the year 2003 by as much as fifty percent[53]. Depending upon the location, coal will increase from 125% to over 280%. The Ohio River System is anticipated by 2003 to carry as many as 380 million tons annually, twice the 1977 level.

In 1981, the Corps and the Port of New Orleans conducted several studies on traffic and export growth on the lower Mississippi. It was found that the river will carry over 160 million tons in 1990 and possibly double in the year 2000 for coal exports. The 234 miles lower Mississipps stretch will also reach 90 million tons with a value of $27 billion in 1990 for grain, animal foods and vegetable oil exports. To facilitate this growth improvements would have to be made. Almost all of this stretch of the river is 100 feet deep, barring the last twenty-one miles and nine crossings between New Orleans and Baton Rouge.

At the time there were three coal terminals in operation with an export capacity of 41 million tons a year by 1983. Future plans included projects under design totalling eight new coal facilities in the lower Mississippi which when added to the existing plants and capacity projected for 1990 will equal 161 million tons and with existing midstream capacity of 24 million tons equal a total of 185 million export tons.

Studies [54] indicate that coal from New Orleans to Europe can be transported at $6-$7 a ton less using 50-foot draft ships compared to the current 40-foot draft ships. With projected 1990 volumes, this would equal $420-$490 million a year transportation savings.

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[52]"Hope for a Starving Superport," Business Week (February 28, 1983), pp. 33-34.

[53]U.S., Army Corps of Engineers, National Waterways Study--Update, Section 158 of Water Resources Development Act of 1976 (January, 1983).

[54]Port of New Orleans, U.S. Coal Export Opportunities and the Critical Need for the Deepening the Lower Mississippi River Channel (September 3, 1981), pp. 1-23.

The kind of ships, that is the size, and cargo transported that reach the lower Mississippi is very interesting to note. In 1970 there were 23 ships that could draw 55 feet of water and were 60,000 DWT or more. That is, if the channels were 55 feet deep. By 1979 the number of ships grew to 3,000 which is equal to 20% of the total ships on the river in that year. Many vessels have been calling that are between 160,000 and 241,000 DWT to obtain cargo or bunkering fuel. In effect then, the current 40-foot depths force these ships to take on part cargos and restrict their capability to carry economically our cargo for export. The cost factor is not to be understated. These studies show that in 1981 since, total operating costs per ton is roughly 60 cents at the 38,000-40,000 DWT size which if allowed to go to 150,000 DWT would drop down to 23-24 cents a ton.

There is general support for deepening the Mississippi to facilitate such supercargo sizes. It even comes from a representative of the railroad industry but perhaps in an offhanded way. An official of the Illinois Central Gulf in testifying before Congress, supports the river deepening, perhaps up to even 55 feet. However:

> Despite our support for this project, research may reveal that in fact, 43 or 49 feet may be the optimum. This is particularly true if one balances the enormous capital expenditures required for vessels as well as channel deepening and maintenance against the number of planned and existing overseas coal handling facilities with the capacity to accept supercolliers.

The point is made by reviewing the data.

> For example, a recent study by the R.S. Platou firm of Oslo, Norway shows the difference in ocean transportation between Hampton Roads and Rotterdam to be approximately $1.30 per ton in favor of 160,000 ton colliers over 90,000 ton vessels.. The required draft for the 90,000 ton vessel is 42.6 feet whereas the 160,000 ton vessel required 53.1 feet. Does that $1.30 per ton savings in ocean transportation justify even the annual maintenance of a 55 foot draft, which in the case of the Mississippi may run near $100 million per year. Who will pay dredging and maintenance costs? How will user charges affect the competitiveness of U.S. Coals abroad? Or from the importer's perspective: Will the transhipping costs incurred as importers transfer coal from supercolliers to smaller ships for delivery to coal users negate the ocean transportation savings gained by using a supercollier?

Some of the research further indicates that "over 176 ports in Europe have been examined for their coal capabilities and that

only seven have access and quay depths of 55 feet or more: 22 range from 40-55 feet and 147 are 40 feet or less in depth." Even if United States ports could handle the supercolliers only 96% of the European destinations could handle them.[55]

The status of the Panama Canal is another logistical concern.[56] Although pertaining to Gulf and East Coast ports, it may be particularly relevant to the Port of New Orleans because its trading partners, for the moment, in coal and grain are principally from the Far East. The best route there is through the Panama Canal. The Canal cannot take on the largest cargo, most efficient operating ships. A second canal is proposed for Central America, including a rail link across Central America or Mexico. In light of the growing political tension and turmoil in that area, development of these other locations may be many years distant and not feasible. Thus, the Panama Canal remains the only secured, stable link that American shipping and world trade may count upon.

Aware of the Canal's limitations, the Southern Pacific Railway developed a through-container train service. A unit train is dedicated to carrying cargo between the Ports of Long Beach and Los Angeles to New Orleans. This is part of the many land-bridge and mini-bridge series of operations, which have proven to be effective. Such intermodal activities, particularly now under deregulation, can become very competitive to Panama Canal traffic; and, very possibly, shorten transhipment time between East and West coast ports.

Perhaps more than any other port in the nation, the port of New Orleans must deal indirectly with twenty states, and numerous local jurisdictions. This is caused by the fact that the port draws upon a hinterland of enormous size, served by 19,000 miles of river systems. Any of the commodities traveling through to the port by rail and barge at some point must begin in a rural area. At this starting point, the basic highway system or local rail network becomes a concern.

For example, rural highways, and bridges, in the Middle West, are overused and outdated. The new federal highway legislation is designed to in part redress the federal aspect of the infrastructure for the highway system. Nevertheless, local county roads and bridges will become real problems if not soon

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[55]Harry J. Bruce, Senior Vice President--Marketing, Illinois Central Gulf Railroad, America's Role in the World Coal Market (Domestic Coal Transportation, Testimony before hearing, Subcommittee on Mineral Resource, of the Committee on Energy and Natural Resources, United States Senate (Washington, D.C.: December 3, 1981), part 3, pp. 12-13.

[56]"Mexico Bridge Panama Canal Alternative," Container News (October, 1982), p. 40.

improved.

The barge system, in turn, seems to not be restricted by intergovernmental policies in operations. The system is capable of huge economies of scale and is underutilized with the current slowdown in traffic. Closer attention to safety procedures and traffic control in more congested locations on the rivers, as well as barge staging and train fleeting areas, may lessen the need for regulations. Operations are controlled by the Coast Guard. Sometimes, there are safety problems due to weather or river conditions, or errors in human judgement.

A matter of public policy that is providing real concern for railroads and somewhat for barges is the pipeline mode of transportation. Initially proposed to carry coal, slurry pipelines carry other commodities as well. The technology is available. If the pipelines are granted eminant domain and constructed, they will clearly cut into the rail and barge cargo positions for coal and grain. At first, modal competition would hurt the railroads. Much depends upon location of the mines and the water supplies available to carry the slurry to the port. Furthermore, federal policy might well affect the position of individual ports who have heavy capital infrastructure and operational stakes in the existing rail and barge modes, and terminal and transfer operations. For example, the port of New Orleans could be bypassed, theoretically, by a pipeline from the mines straight down to the closest access to the water, whether it be New Orleans or Alabama or somewhere else. Similar by-pass, more direct routing could be used on the Atlantic Coast and the West Coast too. It is not unique to New Orleans. The pipelines could go directly and unobtrusively to the shoreline, very possibly under shallow coastal waters offshore to some point several miles out, resurface and load or unload the ships. This is merely speculation that illustrates the impacting technology and the combination of intergovernmental public policy which permit that technology to begin to operate.

The possibility requires scrutiny and monitoring. If the pipelines were permitted and capable of handling in great volume various liquid and dry bulk, then intergovernmental public policy will operate at first to preserve the existing local economies (revenues, jobs) generated by the transportation facilities for the loading, transport, transhipment, storage of export commodities. These areas will feel the loss of jobs and tax revenues quickly if pipelines carry significant cargo and bypass them.

One area of intergovernmental policy that is important for the operation of the export process is safety. Affected by the rail and barge operations is the safety of the surrounding populations, the general environment, and the employees. In the case of grain transport, when grain is stored in elevators there is the possible weather, chemical and dust combination in which grain might ignite, explode unexpectedly and massively. These accidents are quite devastating. The Continental Grain Terminal,

Westwego, experienced such a disaster in 1977. Subsequently the facility has been replaced using state-of-the-art safety technology.

Train loads of chemicals are safety problems too. Accidents on old trackage in some rural town or junction points do require large-scale emergency evacuation. Federal, state, and local regulations do not seem to have the adequate influence upon these types of accidents to prevent them. This is a very hard, difficult area to focus upon and it captures the news media attention nationwide, but it is seemingly statistically not an event of frequent concern. These observations are not meant to apply only to the port of New Orleans but to the general transport infrastructure to the extent dangerous export cargo is carried.

Within the port's specific intergovernmental structure there is one particular law that is most interesting and can serve as a model for the nation. The port has obtained in the state constitution a specific clause that says certain kinds of property shall be exempt from ad valorem taxation and includes:[57]

> Ships and ocean going tugs, towboats and barges engaged in international trade and domiciled in Louisiana ports. However, this exemption shall not apply to harbor, wharf, shed, and other port dues or to any vessel operating the coastal trade of the states of the United States.
>
> Raw materials, goods, commodities and other articles being held on the public property of a port authority on docks of any common carrier or in a warehouse, grain elevator, dock, wharf, or public storage facility in the state for export to a point outside of the states of the United States.

Environmental impacts may provide concern for intergovernmental policy. The river essentially is an industrial transportation corridor and has long been viewed as such according to port officials.

One prevalent attitude is that people "just know" over two hundred years of habitation that the river is not the place to live alongside with the danger of floods. Heavy industry is willing to locate within the river flood areas on the shoreline or nearby, but it builds on high ground, which is landfill, or structures placed above the high water levels. It is not an uncommon sight. This central point is important to recall later in the discussion for the impacts of changes by man, particularly for industrial and transportation development on adjacent river uses. In effect, it is not considered a visual or recreational

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[57] Louisiana State Constitution, 1974, Article 7, Sec. 21, Paras. C-16, D-2, pp. 65-67.

resource in the lower reaches of the system. Because of the danger of flooding in general high water, much of the river shoreline has been protected by high dikes; in the New Orleans area as high as twenty-three feet above high water mark. In cases of extreme flooding, there are also emergency sluice gates to divert water into other river systems and Lake Pontchartrain both of which are above New Orleans. In high water, the force of the river is so strong and fast that a person could be swept quickly away. During floods, whole houses and automobiles have been seen floating downriver past the city. However, the point to remember about the necessity for dikes along the river is that the river then forms, according to local observers, an uninterrupted transportation corridor for non-residential recreational and often commerical uses.

It is not meant in this part of the state to be recreational because of the heavy amount of river traffic, the speed of river flow and that most river banks are high levees for flood control. Environmental awareness is growing in the river corridor throughout the state and further north, where there is large petrochemical industry activity. The awareness is seems to have been manifested primarily in dredging activities further down river and towards the ocean coastal zone areas.

At the federal level it has been noted by the Council of Environmental Quality that there are sensitive shellfish and marine resource production areas. Twenty percent of the commercial harvesting area is closed due to pollution.[58]

Dredging is an environmental concern for the port. The U.S. Army Corps of Engineers study process and the Environmental Impact Statement process come directly into play. The Mississippi River has long been controlled by man in this entire area. The closer it gets to the ocean mouth, that is the Gulf of Mexico, the more control has been necessary. This has meant channel improvements to maintain maritime usage, oil drilling, and efforts to limit damage from seasonal flooding. Man has changed the course of the river, channelized it, and thus influenced the surrounding land. Without man's control of the river, the Mississippi would act like the Nile and sweep across a broad flood plain creating different channels and building additional wetlands in the delta. With man's intervention, the levees prevent the river from "replenishing the 5.4 million acres of marshes and swamps along the Gulf Coast--1/4 of the country's wetlands." By some measures, the wetlands are disappearing as a result, at a rate of fifty square miles per year, along with the supporting habitats of flora and fauna. Some scientists believe that by channeling the river's drainage points to the Gulf in the same location, all the Midwestern rich farmland silt is spilling

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[58]U.S., Council for Environmental Quality, 12th Annual Environmental Quality Report--1981 (Washington, D.C.: U.S. Government Printing Office, 1982), p. 63.

further and further out on the coastal shallow waters. It is now at the point where the silt "falls off the edge of the shelf." In the meantime, natural salt water intrusion, loss of the balancing marshes and protective vegetation, and wave erosion, push the marshes back. If allowed to continue, the parishes at the river's mouth will soon disappear in perhaps fifty years. Parishes further upriver and surrounding New Orleans will disappear within two hundred years and that would put New Orleans "directly on the Gulf Coast." In addition to attempting to control the river by levees, the Corps of Engineers has been encouraging or abetting the extraction of fresh water for the support of the local populations. It only accelerates the process.[59]

This dilemma illustrates the delicate balance that coastal wetlands and river transportation channels share. Although the prospect of a coastal New Orleans is remote, certain awareness is growing. It illustrates recognition of man's influence on the environment.

An illustration of what technologically is possible and intergovernmentally permissible is the LOOP Inc. project. LOOP is the Louisiana Offshore Oil Port for deep draft supertankers to import oil. Initially conceived ten years ago it opened up in 1981 and has been losing money since. On $90 million of revenues in 1982 it lost $41 million before depreciation. The $770 million facility required five private sector organizations (Marathon--U.S. Steel, Texaco, Shell, Ashland and Murphy Oil).[60] This facility shows what could be done technologically in the case of coal or grain export. It also illustrates that although the law may allow it, and new facilities can be accomplished given the intergovernmental framework, the huge capital cost is so much that only largest corporations can afford to take the gamble. For such development to occur, there must be some belief that long-term markets are stable and export arrangements can be made for them. Nevertheless, the combined cost of increasing the rail system, export terminals, harbor dredging, channels dredging for many ports may well exceed the investments of such a super port, though more likely scaled down to a smaller operation for export. This may be easier to accomplish under the intergovernmental policies than expanding existing facilities and operations to meet the projected large export demands by the year 2000. These are open-ended possibilities in the intergovernmental framework and require watching. Trade offs are enormous and the implications are full of political sensitivity.[61]

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[59] Sharon Begley, with William Burger, "Setting the Mississippi Free," Newsweek (September 20, 1982), pp. 100-101.

[60] "Hope for a Starving Super Port," Business Week (February 28, 1983), pp. 33-34.

sensitivity.[61]

In 1978 the Louisiana legislature passed the State and Local Coastal Resources Management Act. This augments the United States Coastal Zone Management Act in 1972. The Louisiana Act is administered by the Department of Natural Reources and includes in whole or in part, eighteen parishes along the coast. It reestablished the Louisiana Coastal Commission, which is an independent body within the department. The twenty-three members of the commission, review coastal use permits and approve local programs. The state permit program applies to dredge:

a) Any dredge or fill activity which intersects with more than one water body.
b) Projects involving use of state owned lands or water bottoms.
c) State publicly funded projects.
d) National interest projects.
e) Projects occurring in more than one parish.
f) All mineral activities including exploration for, and production of, oil, gas, and other minerals, all dredge and fill uses associated therewith and all other associated uses.
g) All pipelines for the gathering, transportation or transmission of oil, gas, and other minerals.
h) Energy facility siting and development.
i) Uses of local concern which may significantly affect interests of regional, state or national concern.

Other projects must be approved by the secretary for use permits. These apply to:

a) Privately funded projects which are not uses of state concern.
b) Publicly funded projects which are not uses of state concern.
c) Maintenance of uses of local concern.
d) Jetties or breakwaters.
e) Dredge or fill projects not intersecting more than one water body.
f) Bulkheads.
g) Piers.
h) Camps and cattlewalks.
i) Maintenance dredging.
j) Private water control structures of less than $15,000 in cost.
k) Uses on cheniers, salt domes, or similar land forms.

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[61] William J. Forman, Jr., "Louisiana Coastal Resources Management Act of 1978," Louisiana Bar Journal (September 1980), pp. 91-96.

Most other activities are excepted if they are on lands five feet above mean sea-level. The power of the law is uncertain at the moment. Precedents do exist, particularly the Vieux Carre amendment to the Louisiana Constitution for protecting the French Quarter as a historic area from high rise commercial and residential buildings. While helping to guide coastal zone useage and compatible private property interests, more experience is necessary to know how it may apply to ports and the general transportation system. Given the observations earlier about the retreat of the coastal area, the loss of the Midwestern silt to the deep Gulf waters, it would appear that this legislation can play an instrumental role in helping balance somehow the preservation of the wetlands and marshes for sake of preserving coastal area but at the same time permitting navigation safety, direct access to the ocean, gulf, water supply for local needs, fresh water supply, and oil and mineral extraction.

The status of the environmental law is, furthermore, still in a growth period.[62] Louisiana, incorporating Napoleonic code law, had originally involved the concept of public lands being a public trust, and should be duly protected and compensated from harm. Public lands, as a concept included the waters, lakes and streams, too. However, there has been a mixed legal implementation and minimal progress toward striking a balance and protecting the environment, according to some observers. One opinion is:

> It is clear from the judicial decisions and recent legislation that the public trust doctrine has arrived in Louisiana. The doctrine was incorporated into the regime after the state had already adopted the common law trust, which gives rights of enforcement both to the trustee and the beneficiary. This comment has shown that a right exists in the state as trustee and each citizen of the state as beneficiary to protect the environment from harm, but that this right has lain dormant since 1975. It remains only for the right to be recognized for the tool it is, and to be enforced to protect the state's resources.
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> The courts must reevaluate their conception of damage awards in environmental litigation. The time has come for Louisiana to end its long-standing penchant for industrial protectionism at the expense of its dwindling yet invaluable natural resources. Only a shift from a market-value-oriented damages system to a replacement cost/rehabilitation system will accomplilsh this end. It remains to be seen whether the shift in emphasis will come too late for the next generation to

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[62] Robert E. Tarcza, "The Public Trust Doctrine as a Basis for Environmental Litigation in Louisiana," Loyola Law Review (Spring 1981), pp. 469-491.

enjoy the natural wonders this state holds in trust for its people.

While intergovernmental law will grow in experience and interpretation for industrial activities in the state of Louisiana, there may be more conflicts to be anticipated if export transportation and the environmental impacts increase. Other states who have experienced this sequence and may be further along include Washington, California and Oregon. These are not necessarily models, but show a different point on the scale of industrial and environmental compatibility and adversary relationships.

Another factor to consider is the effect of deregulation. It has permitted the railroads to charge differential rates more than before. Some railroads charge a lower rate for carrying coal to their own export terminal facilities than if they carry it in conjunction with other railroads, or their own lines to others not owned by them. This preferential rate system rate forces the cost of export coal to be higher for some operations and it is definitely a business incentive to draw more traffic to their lines and off other railroad and barges.

Deregulation has affected barge competition. Barge traffic is already pretty low; capacity is at a high point and prices are commensurately low. The downturn in the economy has provided a strong knifelike sorting out process for the barge industry. The number of companies has shrunk, the cost for carrying cargo has dropped under extreme competition, companies have merged, and equipment is held up in drydock until demand generates again. Rail traffic is providing more competition. Industry observers in the area believe that it can only benefit the ports by providing lower inland transportation costs for export and stable long term contracts can be arranged. Even though the ICC has granted this right to railroads for contract rates since 1978, it was not until 1980 legislation for deregulation that they in fact began to actually take advantage of it.[63]

In the maritime industry there is so much excess capacity that it is cheaper to continue to operate ships than to actually scrap them, even to operate them near empty at a loss. So long as foreign flags are subidized by their countries the rates will almost always be lower than American rates, which only add to the overall higher cost of American export products for the customer.

Some observers felt that the traditional leadership of the New Orleans port area is being challenged by other ports in the Gulf Coast or nearby. For example, Houston is picking up large growth, as are Miami and Charleston outside the Gulf area. In some cases, Hampton Roads and Baltimore are competing for the

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[63]Bill Mongelluzzo, "Rail Deregulation Beneficial to Ports," The Journal of Commerce (October 14, 1982), pp. 1B and 3B.

same hinterland service zone. In fact, the Port of New Orleans has negotiated very strong competitive rates with the Illinois Central Gulf Railroad for export commodities. However, it is having difficulty with this package competing with Conrail service zone areas through East Coast ports. This illustrates how policies at the federal level may contradict each other. Conrail is a public non-profit corporation, supported to a large extent by federal monies. The private sector cannot easily compete according to these reports.

Another factor related to the transportation aspect is that the State of Louisiana does not allow branch banking, whether inside the state from its own banks or by out-of-state banks and foreign banks coming in. Other states and port cities do allow it. What they do is generate customers for the products of the country they represent or the metropolitan area. New Orleans and Louisiana do not have that benefit. There is a movement to change this.

A small illustration of New Orleans geographic concern is that there are currently no international, regularly scheduled commercial non-stop flights into New Orleans and there is little promise of getting some. Even though there is a World Fair coming to the city in 1984 and vast amounts of new construction (hotels, offices and convention center facilities), observers believe it will be difficult for people to reach the city. To some this is just another sign of some of the challenges the city has before it.

The general market of competition fostered by deregulation has spilled over into the marketplace in other regards. Ports do compete with each other and in a regional port market New Orleans is acutely conscious of Houston, Brownsville, Galveston, Corpus Christi, Beaumont, Freeport, Port Arthur, Baton Rouge, Pascagoula, Lake Charles and Mobile. In some of its commodity and tariff schedules, it has lowered its own rates including rates for unloading from railcars for U.S. government going abroad and steel pipe export car and loading rates and unitized bundles of lead ingot rates. This has been part of a tariff rearrangement activity for the last year.[64] Recently rates for wood pulp received from rail cars for export traffic have been cut significantly as well.[65]

Lastly, the role of labor has provided a bottleneck if not a barrier to exports and port survival and growth. One expert feels that fifteen major American seaports are "laboring" under "back breaking" overheads which "threaten the majority of these

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[64]"Port Cuts Rates," Shipping Digest (January 10, 1983), p. 5.

[65]"Port Cuts Rates," Shipping Digest (April 18, 1983), p. 11.

ports with bankruptcy in the coming 1983/86 deepwater, longshore contract period." The net effect would be to reduce the number of ports on the East Coast to two and those on the Gulf to two. The union Job Security Program (JSP) has many complicated provisions, but one is a guaranteed annual income. It is feared that "the East Coast/Gulf control of its tonnageg has gone, with the growth to the west of the landbridge to the north the Canadian ports of Halifax, St. John and Montreal and now the landbridge in Mexico to our south." Ports can apply to the Job Security Program for funds to help meet their revenue shortfalls to pay for general cargo labor activities. It is projected that the current work week for an International Longshoremen's Association worker is 40 hours including 20 hours overtime. In 1980 total direct and indirect wages/benefits were 57,094. By 1983 they will be 76,939 and by 1986 95,000. This includes 6 weeks vacation, 16 paid holidays, full medical coverage, life insurance, pension, unemployment, workmen's compensation, but no management overhead. This advocate is strongly suggesting a national port assocation level bargaining committee for new labor contracts this year and future years rather than the regional port associations doing it independently. Although the figures are difficult to evaluate, the principles seem to be rather strong and this may become a true barrier, not just a bottleneck to the East and Gulf coast ports' stability.[66]

As a general cargo port, historically, labor has played a key role. Transhipment and handling are a highly labor-intensive activity, if done in break-bulk form, whether by sacks of commodities, boxes, or bales of cotton. Labor unions have been traditionally strong and set work standards. The necessary supporting land facilities have included mile after mile of old warehouses with waterfrontage on one side and rail lines on the other side so the goods could be moved quickly across the transit shed.

Thus labor factors are not so much the current laws and regulations but simply the practices established under the contracts and built up over the years. The contract periods run for three years. Wages with all fringe benefits are very high. The number of men working in the unions shrinks and the principal union concerns, reportedly, stem from guaranteeing job security for the remaining members. There are not enough employment growth opportunities for them. They are part of the Job Security Program, which is considered by many officials as a featherbedding practice and not a real job security program.

Occupational health and safety are a concern as in all other locations as with hazardous cargo or processes. For example, the

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[66]Arthur Lane, President, Boston Shipping Association, "East Coast/Gulf Bargaining--Survival of the Regional Port," WWS/World Ports (October/November 1982), pp. 28-29.

petro-chemical industry is a candidate for explosions, as well as grain facilities. The Continenetal Grain Terminal ten miles upriver on the west bank exploded in 1977 and killed several people. It has been subsequently totally rebuilt and is a much safer facility meeting all the stringenet requirements, according to the management. Vessel accidents are entirely possible given heavy traffic conditions and tricky river navigation problems. Labor handling break-bulk cargo may often move with a different custom and pace than modern productivity measures would desire from the management point-of-view. Investigators in the port complex have required different types of facilities to be installed on the wharves for sanitation, for example, rather than allow discharge into the river.

Railroads to the New Orleans area mainly carry grain and petroleum coke. Truckers carry electronic parts, chemicals, green coffee, insecticides, containers and paper products. The major regulations of concern for the railroads were air pollution (federal) for one carrier and hazardous materials (federal, Louisiana, and parish) for another, along with port labor relations. However, for truckers the principal concerns were hazardous materials safety (federal) and labor relations (federal). These regulations seem to hinder about half of them frequently; operationally, sometimes; and economically, from sometimes to frequently. All anticipated them to continue to the year 2000. The effect of deregulation has been mixed, where some have had no cost change and others have found cost to decrease. In almost all cases rates have decreased and competition seems to be much more intense. Customer service has gotten somewhat better. Delivery speed is faster for the railroads but with no change for several truckers. Freight spoilage consistenly has not changed; productivity seems to be higher. For railroads, there has been more business growth, but no change for truckers. The railroads believe that agencies helping to foster trade include the state port officials, U.S. Department of Commerce and Argiculture. Truckers believe the ICC and the Maritime Commission have helped. Major recommendations from railroads for improving the regulatory situation focus on reducing the number of regulations, making regulations less detailed and creating an international trade transport agency. Truckers on the other hand had mixed feelings, and thought that regulation should be less detailed, paperwork reduced, rates paid to unemployment and workers compensation insurance lessened, and review processes should be speeded up with administrative flexibility. As can be seen there is no general pattern here of belief. These findings are based upon contact with three railroad representatives and six trucking firms.

Policy Issues

At the moment, the port is not unduly stressed by intergovernmental policies and regulations for its own activities nor for the transportation of export commodities from point-of-origin to the Gulf. It certainly was stressed with the higher economic activity in 1979-81 for coal and grain, and will promise

to be again such when the market resumes. This interim period of uncertain length gives the port and its community the opportunity to prepare, plan and to set up the coordination for complex project developments. The principal policy issues that seemed to remain for the future activity are pretty much related to dredging, deregulation and regional competition. These have been discussed at length in earlier sections and can be summarized here as the following.

Dredging most likely will be a considerable constraint on the port's response. In fact, all neighboring ports in the Mississippi are affected by the forty-foot depth controlling limitations. The cost of dredging is prohibitive and all proposals suggesting a reshifting of the burden or a sharing of the burden from the federal to state, local and private sector will truly influence the position of the port.

Deregulation, in turn, is a complex situation for the motor carriers and particularly for the railroads. Ultimately, the carrier with the best consistent service and the lower long-term price will capture the lion's share and determine which mode will be most successful in meeting export needs. To the extent that a carrier serves several markets, it will price its rates such that the most profitable route will be marketed. Some provide lower rates to their own terminal facilities.

If slurry is a feasible alternative, deregulation will allow the competition to become extremely heated. Low barge rates will keep pressure on deregulated railroads to hold their rates down. New Orleans will maintain its rail position in terms of cross-country mini-bridge type activities. For example, Kansas City Southern has arranged with the Santa Fe to provide five day service via Dallas to Oakland, California. It has been carrying large amounts of California cotton formerly carried by truck. Now canned gods, wine, foodstuffs and building materials are going that way too. The railroad is also improving intermodal capacity for the New Orleans Northwest Pacific coast routes.[67] Such deregulation will also provide the opportunity for New Orleans to be in more competition with Baltimore to serve the hinterland zone.

There are over ten ports on the Gulf Coast that could be competitors with New Orleans. Some are newer and some are single service terminal ports with one cargo specialty. For the most part though, New Orleans has a leadership position and is well-situated to stay that way. But the question of regional ports and allocation of scarce resources does come into play. New Orleans is not the only port that must contend with tremendous capital resource costs. Galveston needs to dredge its thirty mile channel from forty to fifty feet. Scheduled to start in summer

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[67]"Kansas City Southern--Independently Well Off--and Plans to Stay That Way," Railway Age (August 30, 1982), p. 3.

1982, the work will ultimately cost $450 million.[68] The intermodal rail service and the new freedom of rail companies to operate their own trucking companies will provide an interesting ingredient to the traditional port regional competition. The regional competition may even more strongly become "inter-regional" rather than "intra-regional" along the Gulf Coast. It might well be that the southeast Atlantic could begin competing with the Gulf Coast ports. Land-bridge and mini-bridge connections shave important transhipment time from cross country or hinterland to coast shipments. Some ports in the Gulf could be bypassed if more cargo is diverted to this theoretically faster land route from ocean shipping.

Another issue to watch is the question of labor and Job Security Programs identified earlier for the Atlantic and Gulf Coast ports. Selective strikes against carriers and terminal operators and facility owners may well encourage diversion of cargo to Mexican and Canadian trade routes.

Port of Seattle

As the leading port to Orient trade, Seattle holds a unique position among the nation's ports. This relationship is due more to the port's role in import than export trade. The Far East produces a great volume of trade into the West Coast ports, and Seattle, being a full-day closer to the Orient in sailing time than other "lower - 48" ports has captured a very large share of that traffic.

The port from the very first has grown at a pace keeping stride with ever-increasing demand. The port's management has also been very progressive. It has moved from an appointed board of directors to an elected representation with a healthy property tax assessment funding base.

The port has an impressive record of accomplishment and a generally bright future. To the extent Pacific Rim trade continues to grow, the port will prosper.

Seattle's future as a world port started on November 19, 1851, when the tiny Nantucket schooner Exact, out of Portland, hove to off a lonely point and in less than an hour deposited Seattle's first residents and their belongings onto a soggy beach crowded by forest. Included in the Exact's cargo were axes, tobacco, brandy and whiskey--appropriate offerings for a city that was to get its start from timber and loggers. In making their selection of a harbor, the first settlers chose well. Paddling in a canoe across Elliott Bay, they found a harbor walled on three sides by an apparently inexhaustible timber supply. Of more importance was the promise offered by the deep, protected harbor--so deep, in fact, that less than a century

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[68]"On the Gulf," AIEM Magazine (June, 1982), p. 24-25.
cargo to Mexican and Canadian trade routes.

later the city sluiced an entire hill into the bay without measurably disturbing its depth.

Then, in slightly more than a decade, three events combined to launch Seattle on its courses toward becoming a great world port.[69]

The first, heralded by fireworks, brass bands, and spectacular preparations, was the arrival on August 31, 1896, of the Nippon Yusen Kaisha (NYK) freighter Mikke Maru, first vessel to fly the flag of Japan in trans-Pacific trade. Vessels that followed ushered in what was to become Seattle's role: Gateway to the Orient.

Another arrival, a year later, caused even more comment. The steamer Portland carried prospectors laden with $700,000 in gold dust and nuggets from the Yukon. The Klondike and Nome gold rushes transformed Seattle from a seedy mill town into a thriving port.

Producer of heroes and heroic legends, the Klondike Gold Rush was, as author Pierre Burton described it, "in some ways the weirdest and most useless mass movement in history."[70]

Seattle's growth was paced by a faltering stride, nurtured only by occasional shipment of lumber to San Francisco and slowed by lack of rail connections. Finally, in 1890, after a 17-year campaign, the Northern Pacific gave Seattle its long-awaited rail link with the East. Three years later, Jim Hill pushed his Great Northern Railroad across the continent and built a series of huge ocean docks. It was under Hill's encouragement that the Nippon Yusen Kaisha elected to anchor at Seattle and open international trade.

The third event that shaped Seattle's future occurred in 1911. The Washington State Legislature authorized creation of the Washington Port Districts, and the Port of Seattle, a municipal corporation and the first port district in the state, came into being. A bond issue of $8,100,000, modest in comparison with today's port investments, was passed. The funds were used to acquire land and to construct the first publicly-owned terminals.

The Port of Seattle, a public corporation, is governed by five commissioners. King County voters elect commissioners for staggered six-year terms. Port commissioners serve without salaries. Typically, Port Commissioners are appointed by one or more elected official(s) who oversee the Port as a municipal

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[69] Port of Seattle, Guide to the Port of Seattle, 1982-1983 (Seattle, 1983), p. 5.

[70] Ibid, p.5.

function and are resposible only to that singular apppointing authority.

As an independent municipal corporation, the Port is a unit of government separate from King County and the City of Seattle. Its general elective structure is rather unique and provided the county's citizenry with a more responsive approach to public ownership of this revenue-generating, property tax-reducing operation. Under state law, the Port is charged with managing commerce through the Seattle Harbor and Sea-Tac International Airport. It is also rather unusual for the port administrators to oversee an international airport operations. Only a few ports have this combined operation. The comparability of functions allows for a reduction of public operating costs.

One of the most important Port Commission activities during 1980 was the revision and adoption of a Statement of Purposes and Objectives for the Port of Seattle.

The Commission carries a high level of community esteem and the reputation for being well-managed. The composition of the Commission is quite unique in that it consists of business leaders among its five representatives as well as having a principal labor leader from the Seattle area and a representative from the longshoremen's union.

The Port of Seattle Commission establishes Port policies, reviews operations, approves expenditures and selects an executive director to manage Port operations.

The Port of Seattle is described by its management as being very soundly financed through a combination of a property tax levy upon the citizens of King County and through its operating revenues. "The Port of Seattle successfully used all its resources during 1982 to strengthen its contribution to the region's economy and assure its future growth as a world port."[71]

The property tax which totals approximately ten percent of the total annual operating budget is directed by port policy solely toward capital improvements so that the citizens of King County will recognize a constantly improving equity position in the community. This also removes from public scrutiny the possible contention that the property tax funds are being misused by Port Commissioners or staff for day-to-day operations or for travel.

Port revenues have continued to increase and at a faster rate than the port's operating expenses. Excess revenues over expenses has risen by considerable strides annually, although with a reduction for the recessionary climate of 1981. Seattle

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[71]"Port of Seattle Reviews 1982 With Optimism for 1983," WWS/World Ports, February/March, 1983, p. 67.

is a mature port, having been established by the voters of King County over seventy years ago, therefore, expansion is not a major issue at the port and through its judicious management it possesses a very modern physical plant.

The Port of Seattle contains 207 piers, wharves, and docks of which 39 are located on Elliott Bay in the outer harbor, 14 on the West Waterway and 34 on the Duwamish Waterway. In the inner harbor, 50 are located on Salmon Bay, 10 are on the Lake Washington Ship Canal, 31 on Lake Union with 1 on Portage Bay and 9 on Lake Washington. Additionally, there are several scattered at various other locations on Puget Sound. (Map VI-4)

As a container port, activity is quite strong.[72] The Port of Seattle is the major container port on the Pacific Coast, topped nationally only by New York. (Such)...accomplishments in a highly competitive market can be attributed to three factors that favor the Port of Seattle:

1. Geographical location. Seattle is closer via the Great Circle Traders' Route to the Far East by at least a day than any other Pacific port.

2. The Port of Seattle has the most advanced terminal equipment.

3. A series of interlocking customer services utilizes the newest generation of dataprocessing facilities..."

The marketing and planning staffs of the port have developed a detailed planning process in which they have modeled future demand and create their capital investment programs in conformance with the planning projections. Given the five-year permit period for the development of a capital facility, the Port has developed this sophisticated planning process to allow their investment in facilities in advance of stated public need. Therefore, when a new shipping line, for example, indicates the desire to create facilities at the Port, they are not faced with the long lead time.[73]

> The basic purpose of the Port--and the reason for public involvement in this enterprise--is the enhancement and orderly management of the flow of waterborne cargo and air passengers and goods into, out of and through the District. Experience has

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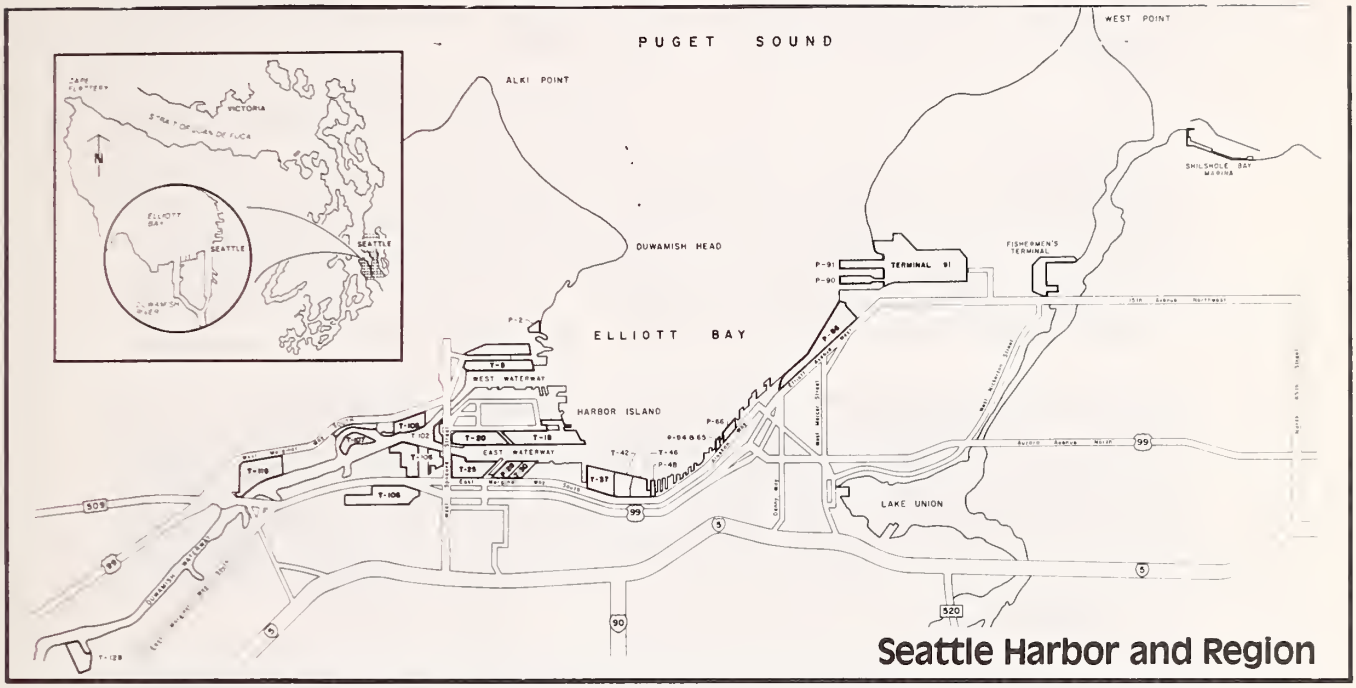
[72]Port of Seattle, Guide to the Port of Seattle, 1982-1983 (Seattle, 1983), p. 36.

[73]Port of Seattle, Port of Seattle Annual Report - 1981, pp. 18-20.

MAP VI-4



demonstrated that a public agency is necessary for the planning and development of marine terminal and airport facilities. The employment and area-wide economic activity generated by public investment in facilities of this type is the justification for local support through the use of tax funds and/or the removal of properties from the tax rolls.

The basic objective of the Port is the development of an increasing flow of commerce into, out of and through the District, with the aim of broadening and strengthening the economic base of the District while working within the constraints of good environmental planning. In part, this requires providing modern water and air terminal facilities in order to maintain the best possible competitive position in relation to the Port's geographic location.

In pursuit of this succinct statement of purpose and basic objective the Port has established a series of policies to guide daily operations to achieve their purpose. These include:[73]

The primary purpose of the Port is to develop, maintain and operate adequate transportation facilities for water and air transportation within the Port District. Wherever possible, the Port will encourage the development of any portion of Port facilities as is feasible by private capital.

The Port has not accepted a general responsibility to provide surface transportation facilities for motorized vehicles, including highway and rail terminals, tunnels, and toll bridges, but may engage in such activity when a public purpose ancillary to the Port's primary responsibility is served and when private capital is unable to meet the need.

...It is the ultimate objective that operating surpluses will be sufficient to cover the required investment in new and improved facilities. For the foreseeable future, however, the operating surpluses must be supplemented by investment of the general-purpose levy milage in marine terminal facilities. Revenue bonds will be used whenever feasible to supplement funds required for new facilites.

The Port maintains a plan of capital improvements and fund requirements projected at least five years into the future and a comprehensive scheme of long-range development extending beyond that time. In planning for development projects to meet its land-use needs, the Port will cooperate and coordinate fully with the development plans adopted by other governmental jurisdictions.

The Port will cooperate fully with labor, management and other public organizations and will coordinate with other ports in matters relating to reducing the impediments to trade, improving the efficiency and economy of Port operations, and establishing equitable and compensatory charges for service.

In meeting the requirements of the Shoreline Management Act, the State and National Environmental Policy Acts and other applicable regulations, the Port recognizes its responsibility to minimize, to every feasible degree the impact of its development projects on the public health and safety, the environment and on residential communities adjacent to the projects.

Like all public organizations, the public ports of this country are caught in a financial crosscurrent of increasing facility cost and a growing scarcity of funds.

Costs of all elements of port planning, development, operation and maintenance have increased drastically in recent years. The cost of marine terminals and modern cargo-handling has risen at a very high rate in the last ten years. Port operating costs have soared as a result of staggering increases in the cost of energy. Investment capital is expensive and difficult to obtain. Inflation undermines the port industry's ability to maintain efficient operations and increases the capital needed for

facility modernization and expansion. Concern for the environment and coastal management has grown along with increased recognition of social concerns.

In 1982, the Port of Seattle began a program of development that ultimately will mean the investment of more than $200 million in expanded, upgraded facilities. Already underway is a $15 million expansion of Terminal 5.[74] This action followed a facility relocation to Tacoma.

> The Port of Tacoma, which has been primarily a bulk and breakbulk cargo port, is poised for a quantum leap into the containerized cargo world--as the result of Sea-Land Service, Inc.'s recent declaration of intention to move its Pacific Northwest base of operations from Seattle to Tacoma.
>
> Sea-Land's move, expected to occur by the third quarter of 1984, will increase Tacoma's overall cargo volume by nearly two million tons and vaults the port, according to a Battelle Institute Research Center study, into sixth place among U.S. ports in terms of TEU volume.
>
> ...Port of Tacoma officials said the availability of waterfront land in Tacoma was the key reason for Sea-Land's decision. Tacoma set aside 150 acres for Sea-Land.
>
> Seattle simply was not in the position to offer that much acreage in the Terminal 5 area. With great difficulty and considerable expense due to demolition and reconstruction work, Seattle could have mustered as much as 125 acres for Sea-Land.

According to Port of Seattle Commission President Jack Block,[75]

> Seattle's traditional strengths will not disappear with the departure of one tenant; strengths like our aggressive, effective marketing programs, our modern facilities, our proximity to the rapidly-growing Pacific Rim countries helped make us what we are today, and will continue to

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[74] Bruce Johnson, "SeaLand Plans Major Tacoma Facility," Container News (October 1982), pp. 42, 44.

[75] Ibid., p.44.

make us grow. The capital investments that would have been made specifically for Sea-Land will be dedicated to accelerating other projects, so we're still very optimistic about what the future holds.

The port will stress marketing its attributes. One is a strengthened effort to attract new shippers, with the primary emphasis on exports. Our second objective is the continued development of new inland transportation services, in response to the changes brought about in the past two years by deregulation of truck lines and railroads. Third is the addition of new steamship service into the Port of Seattle.

Those ports which pursued redevelopment strategies rather than major dredge and fill expansions tend to have accumulated a record of success not only in their competitive transshipment markets, but also in the management of conflict.

The port recently made an investment in both the present and the future when it constructed a pier for small fishing vessels adjacent to Terminal 115, the new fish-processing and cold storage facility. The seafood-processing plant is capable of processing 1.5 million pounds of fish a day while storing another 28.8 million pounds. Improvements on Piers 90 and 91 are being made to turn them into an auto import center.

By the end of 1980 the port spent nearly $300 million for the construction of perhaps the world's most advanced container center on Terminal 37. This terminal covers the space previously occupied by four conventional break-bulk piers and their slips. The $60 million terminal required one of Puget Sound's biggest landfills--almost 3,560,000 cubic yards of fill barged in from nearby Vashon Island.

The earlier reference to the Port of Tacoma realigning itself to become one of the nation's largest container-handling ports from its previous emphasis on bulk cargo and breakbulk cargo handling is a classic example of a mode change-over for a port. A potentially very interesting phenomenon awaits the move by Sea-Land to Tacoma for the Port of Seattle. While the Seattle port officials claim that the move will have a negligible financial impact upon the port, it will in fact drop them from the number two container-handling port in the nation (second to New York) to position six or seven. It remains to be seen whether they will be successful at filling that void or whether they will be required to make a major change in their structure to accommodate this move and consequently change their principal method of operation.

By virtue of its unique geography, the sheltered Port of Seattle is too far, 124 miles, through the Straits of Juan de Fuca to receive a major tidal impact from the ocean currents. Additionally, its 600-foot deep basin in Elliott Bay is posed no

threats by sedimentation from the Duwamish Waterway. Upstream in the Duwamish there is occasional dredging of minor silt deposits approximately every 8 years. However, unlike such ports as Los Angeles and Long Beach, dredging is not a major concern for the port administration.

Most ports like to combine dredge and fill projects because use of the dredge spoils to expand the land base usually offsets the cost of dredging. Consequently, environmental impacts come from both the dredge activity itself and the covering of wetland habitats vital to birds and marine organisms. Dredge and fill projects change water circulation patterns, introduce heavy suspended sediment loads which eventually smother aquatic plants and shellfish beds, and destroy some habitats completely by releasing toxic substances on them. Thus Seattle is relatively more fortunate than other ports caught in the necessity to dredge and protect and preserve surrounding environment from severe impacts.

Economic forecasters predict growth in the range of five to six percent compounded yearly over the next twenty years in the Pacific Rim. Seattle is in a key position to support that trade. The entire Pacific Northwest region stands to gain from the trading relationship with Asia. Lumber, wood products, seafood, grain and coal will be major exports.

The volume of trade is shown in Table VI-4. The leading commodities are cereals, wood, lumber and cork and pulps and waste paper. But note the drop in grain exports.

Despite the economy, the port can point to several successes, including its ranking as the largest container port on the West Coast, second in the U.S. While most U.S. ports' container cargo was down, Seattle's actually grew to 810,000 containers, an increase of one percent over last year. In 1982 the port dedicated Terminal 46, a $29 million container facility. More than $1 million of warehouse improvements were completed at Terminal 106, enhancing the port's rapid distribution service by allowing simultaneous receiving and shipping through 58 truck bays.

The extent of a port's hinterland differs by each commodity handled and may range from a 'captive' cargo located within the immediate urban area atop a 'minibridge' cargo bound for, or coming from across the nation by rail.

COMMODITY	MARKET SHED
Fruits, Nuts	Central Washington N.W. Oregon
Vegetables	S.E. Washington N.E. Oregon
Barley	S.E. Washington

	Montana, N. Dakota
Wheat	S.E. Washington
	Montana, Dakotas
Hops	Central Washington
Oats	Upper Midwest
Hay	Upper Midwest
	Northwest
Iron, Lead, Copper, Zinc	N.E. Washington
	Idaho, Montana
Coal	Montana, Wyoming
Wood, Pulp	Washington, Oregon

Beyond these specific relationships, the Port of Seattle markets its services very heavily in the Midwest, specifically Chicago. Its drawing area then encompasses nearly 1/4 of the land mass of the United States--a northwestern quadrant, if you will.

Last year, the Port of Seattle handled nearly 10 million pounds of hops, making it number one in the country and one of the top hop-handling ports in the world. The U.S. leads the world in hop production, raising over 27 percent of the 1981 crop. Washington's Yakima Valley produced 75 percent of the 1981 U.S. crop, or almost 60 million pounds of hops valued at close to $90 million.

Bottlenecks and Barriers

The basin immediately surrounding the Seattle waterfront has developed in recent years as a major hub of transportation facilities. The area is served by Interstate 5 for north/south traffic and by Interstate 90 for east/west traffic. There is a regional grid system fanning out through the state of Washington and further into the port's hinterland. Locally, the port area is served by a system of access which poses no logistical barriers which would otherwise be an impedance to export trade through the port.[76]

In fact, the system is viewed by port officials as completely adequate to their needs. The rail network is also felt to serve the needs of the port adequately. There was concern in recent years that the bankruptcy of the Chicago, Milwaukee, St. Paul and Pacific Railroad (Milwaukee Road) would cause a serious access problem to the port from the northern states. However, the principal tributary lines of the Milwaukee Road have been assumed by other rail lines.

There are no key logistical bottlenecks in the

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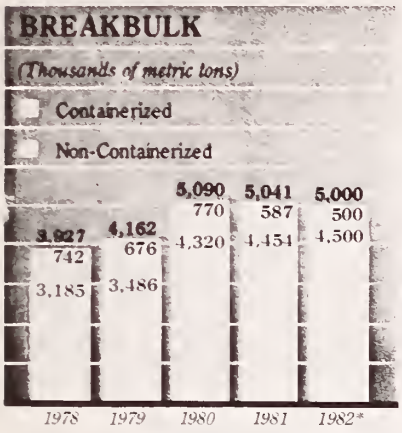
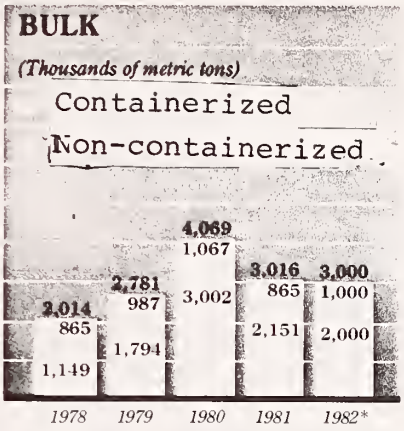
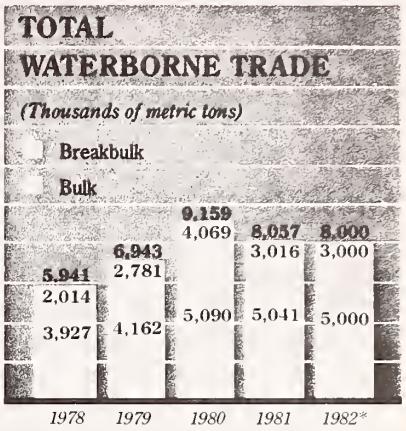
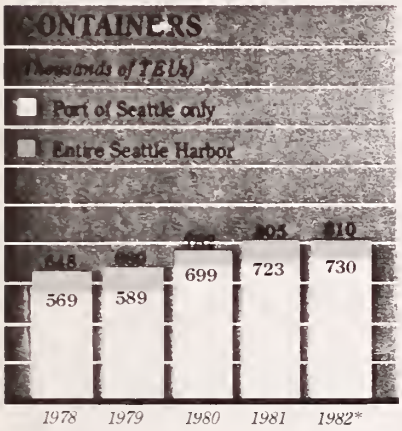
[76] Washington State Dept. of Transportation, Washington State Transportation Plan Update: 1983-1995 (Olympia, 1982), pp. 6-18.

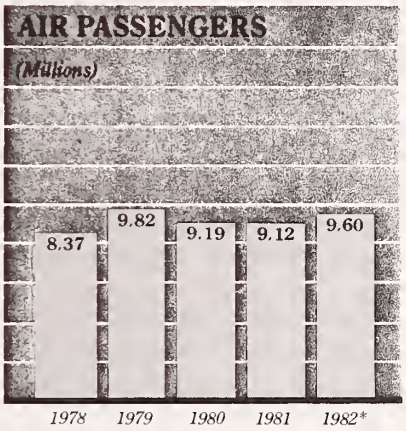
TRENDS AND FORECASTS

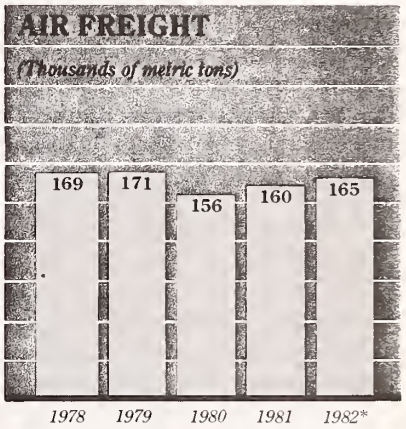








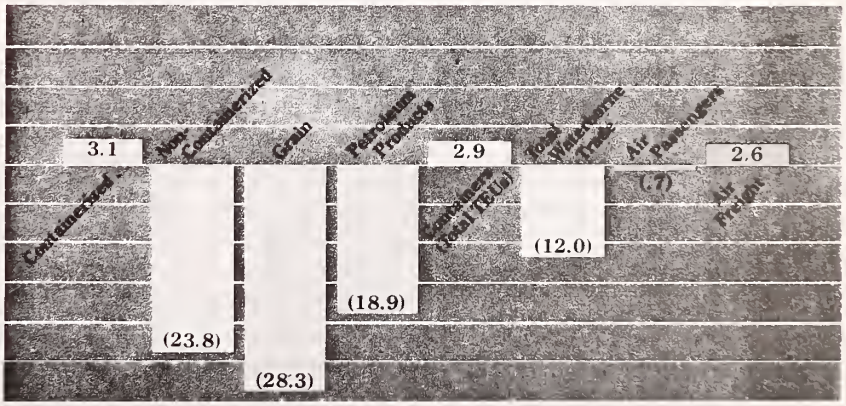




COMPARING 1981 TO 1980

(Percent of increase)

☐ Breakbulk
Bulk

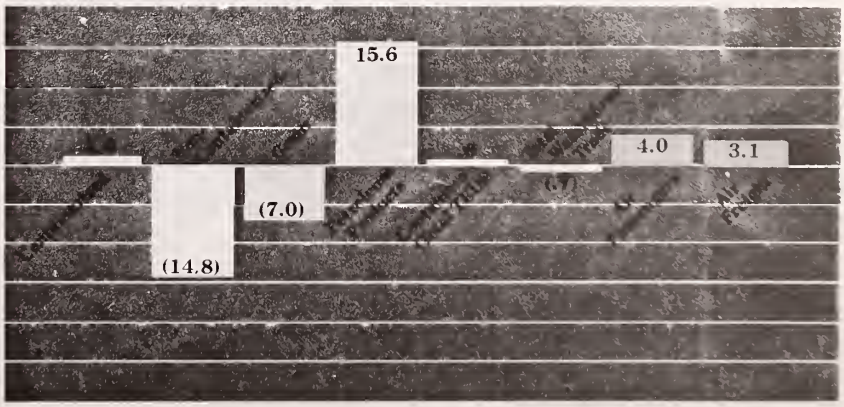


Source: Port of Seattle, Annual Report (1981), p. 12.

FORECASTING 1982

(Percent of increase)

☐ Breakbulk
Bulk



*Projected

transportation system cited by local officials that have any measureable impact upon the port's operation.

A considerable expansion of export trade could cause a strain on the infrastructure serving to move goods to the port. No immediate problems are foreseeable and the balance of U.S. trade with other nations would suggest just the opposite outcome. Should a major influx of export trade occur, potential bottlenecks could arise out of the proximity to downtown Seattle due to a function of congestion. Another concern could stem from the loss of the Milwaukee Road, putting a strain on the Burlington Northern. Examination of the state highway master plan does not forecast any bottlenecks with the program projected to handle future traffic demand.

However, limited land surface area may well be a constraint. The Sea-Land container relocation was in part a problem of acreage. In the use of coal, "land limitations provide limited capability for any reasonable coal development other than, possibly, a marshalling area some miles away and a slurry line to the loading point."[77]

As public enterprises, ports have always been surrounded by a setting of interest groups and government, but with the advent of environmental quality issues, a rapidly increasing number of government agencies and private actors became key participants in harbor development decisions. The new environmental network, however, requires a sharing of jurisdictional authority which is often perceived by port officials as a threat to their traditional decision-making autonomy.[78]

> When environmental legislation first appeared in the late 1960s, most ports took the requirement in stride by interpreting its focus to be primarily pollution from operating facilities. Since most West Coast ports are landlords and operate only a small percentage of their facilities, this posed no serious adjustments for them. When it became clear, however, that regulation was being directed equally toward development activities which had significant intervention impacts on ecological systems, many ports were caught unprepared.

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[77] Lewis R. Holcomb, Executive Director, Washington Public Ports Assoc., "The Future of West Coast Coal Ports-Pacific Northwest," American Association of Port Authorities, Coal Ports West Proceedings (Sacramento: September 17, 1981), p. 105.

[78] Herman L. Boschken, "The Demands of conflicting Change on Public Enterprise: West Coast Seaport Development and Environmental Regulations," Public Administration Review (May/June, 1982), p. 223.

Although the Puget Sound Council of governments has shown interest on various occasions to become involved in the planning of the freight movement within the Puget Sound ares, by virtue of the lack of federal money being utilized by the Port of Seattle, there is no mandatory requirement that they do become involved.

The entreprenuerial role of the Port of Seattle as a private enterprise operating under state government sanction, has not required the assistance of the federal government in the capital expansion of the port, therefore, there is no apparent role for PSCOG in the port planning function. Furthermore, the port has a good track record in the planning/implementation of its capital involvement negating any need for outside intervention.

There are several state agencies that have a role in determining the extent and direction of regulation of those activities that contribute to the overall picture of exportation through the port of Seattle. Among the functions falling within the jurisdiction of one state agency, is that of water pollution control. More than any other, this was depicted as the principal area of concern for public protection as demonstrated by the officials of the Port of Seattle. Within the statues regarding water pollution controls are the following which would tend to have a tie to the activities at a port:[79]

RCW 90.48.080	Discharge of polluting matter in waters prohibited
RCW 90.48.160	Waste disposal permit--Required-Exemptions
RCW 90.48.162	Waste disposal permits required of counties, municipalities and public corporations
RCW 90.48.165	Waste disposal permits required of counties, municipalities and public corporations may be granted authority to issue permits--Revocation--Termination of permits
RCW 90.48.170	Waste disposal permits required of counties, municipalities and public corporations--Application--Notice as to new operation or increase in volume--Investigation--Notice to other state departments
RCW 90.48.315	Discharge of oil into waters of the state--Definitions

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[79] Chapter 90.48 RCW, Water Pollution Control, Washington State Code (Olympia, Washington, 1981).

RCW 90.48.320	Discharge of oil into waters of the state--Unlawful for oil to enter waters of the state--Exceptions
RCW 90.48.336	Discharge of oil into waters of the state--strict liability of owner or controller of oil for damages to persons or property--Exceptions

Another set of state issues that deal with ecology and are emodied in the Department of Ecology are:[80]

RCW 43.21A.170	Ecological Commission-- Created-- Members appointed-- Qualifications-- Terms-- Filling vacancies-- Chairman, appointment-- Removal-- State agency representation
RCW 43.21A.210	Ecological commission-- Majority of commission may agree to consider any matters pertinent to act's purpose.
RCW 43.21A.405	Marine pollution-- Baseline study program-- Legislative finding and declaration
RCW 43.21A.420	Marine pollution-- Baseline study program-- priority factors

The City of Seattle maintains a strict policy of granting permits with regard to land use controls. This includes the port area within the city. Seattle, more than most, with the possible exception of Portland, is an extraordinarily environmentally conscious city. Therefore, its permitting process for changes to land use come under exceedingly close scrutiny and are closely observed by the citizenry of the city.

Among the matters of national concern is the shipment of hazardous material, e.g., the train shipment of nuclear material to the State of Washington which was deemed the "death train" by public activists. However, Seattle, Tacoma, and Everett, which house the public seaports in the region, do not engage in major handling of hazardous materials (as a percentage of each total port tonnage).[81]

The major cargo carried for export by the railroads to

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[80] Chapter 43.21A RCW, Department of Ecology, Washington State Code (Olympia, Washington, 1980).

[81] Puget Sound Council of Governments, Hazardous Materials Study for the Central Puget Sound Region (Seattle: April, 1981) pp. 2.3-2.7.

Seattle include agricultural products and industrial goods. Truckers carry containers, dry peas, and wool products. Regulation of concern seems for the railroads to be labor relations (federal and state). However for the truckers principal concerns seem to address licensing, taxes and fees (federal, State of Washington) and size and weight restrictions (Washington). Railroads have found these regulations not too bothersome but frequently so for trucking. Operationally and economically there have been frequent concerns. Almost all envision the Year 2000 would see the same concerns. As to deregulation, costs have decreased for the most part except for one railroad. Rates have decreased generally and competition has in every case increased. Customer service has either experienced no change or gotten worse, while delivery speed and freight spoilage have had no change. Productivity on the other hand has experienced little change and there has been less opportunity for business growth. Only one agency cited an organization that helps foster trade and that was the port itself. As for recommendations to improve the situation, truckers seem to feel that paperwork should be reduced and process speeded up, with some regulation consolidation. One trucker thought government should be out of the whole area of regulation period. This information is drawn from contacts with two railroad officials and four trucking officials.

Policy Issues

Today's policy issues and tomorrow's are likely to be somewhat different. We are still winding down from the effects of heavy citizen involvement of the 1960's and the resultant protective clauses at all levels of government.

In the 1980's the reality of public policy seemingly attempting to protect "everyone from everything" is creating an awareness that is conducive to change again. The regulations that have resulted have not so much tended to impede the flow of goods through the ports as they have damaged the ability of the ports to expand and function with the degree of freedom requisite to compete in a world marketplace.

The pendulum seems to be swinging back from heavy control and regulation due to public concern to a position of greater cost-consciousness and the tradeoff required in reducing regulation.

If present trends continue, the relevance of the export function could continue to diminish in a relative sense with respect to the world market. The impact of regulation could diminish in a natural course this way and be accelerated by the deregulation process.

There is a wide diversity of opinions as to what constitutes bottlenecks and barriers. Several individuals contacted indicated an absence of such constraints, while others referred to "solutions" to the bottlenecks as bottlenecks.

There is potentially a wide range of perception as to what constitutes operational problems for any given port. These could stem from logistical problems with the road network, rail access or terrain. They could also be regulatory in nature and could vary quite widely here as well. Federal and state regulatory bodies set rates and operating rules which, can conceivably overprotect and stifle free trade. State and local single and multi-purpose agencies can create a veritable plethora of "official" red tape for private business to understand and with which to comply to gain a license, operating rights or annual renewals. When taken in the aggregate this combination of local, state and federal agencies, each with a charter (and not infrequently, overlapping charters), represents a maximum of protection to society but a real hindrance to business initiative. Smaller firms are often at a loss to understand and even be aware of all the existing rules and their constant changes. Larger firms increase their overhead and lose, to some degree, their competitive advantage by maintaining a staff of attorneys to keep abreast of such laws and rules, guidelines, etc. These add nothing to the value of the product sold, just to its price.

Seemingly, all government agencies with a charter to protect the public domain from abusive business tactics should have a common perspective toward what constitutes bottlenecks and barriers to trade, such as through any given seaport. However, discussion with a general cross-section of such agencies suggests that "turf protection" for the ever-increasingly diminishing tax dollar is a very real consideration. There is a common vein among public agency perspectives, however, it does tend to splinter on an agency-by-agency basis.

The same rationale tends to hold true for others involved in the export process--in its grand scheme. Shippers tend to vary among themselves, within their industry, from within and without the community and hinterland, with others involved in the export process and with government agencies. The same can be said for transportation companies, such as the belt line railroads, transcontinental rail lines, over-the-road trucking companies and local drayage firms, large and small, "mom and pop" operations, minority-owned firms and majority-owned firms.

A concern of port officials is the Export Trading Act as one of the areas of regulatory concern. Their concern deals with the "learning curve" associated with understanding and implementing new legislation. They did acknowledge that the concept held actual appeal. As pointed out earlier, the port staff identified as most critical the specific area of water pollution, as this is a paramount issue in the region. Again, it was not a matter, so much, of tying this to a bottleneck to implementing trade through the port, but a matter of local concern with which they had to deal. In summation, it would not appear that the port officials involved in the discussions associated with this study felt any particular bottlenecks or barriers were presently in place, nationally or locally that inhibited export trade through their

port.

A better measure of shipper/producer understanding of the regulatory bottlenecks and barriers associated with export through the port of Seattle is indicated by the following observation.[82]

> At an international trade conference, for example, Mr. George Weyerhauser, President of Weyerhauser Company, indicated that "for Northwest producers to increase their share of sales to offshore customers, it would be necessary to maintain access to these markets. This means that U.S. laws and regulatory attitudes toward exports must be supportive. Any actions to attempt to restrict product form, to subsidize domestic industry through export restrictions, or to tax exports differentially are substantial barriers to product exports. So are such current efforts as those to subsidize further the maritime industry through 'cargo preference' laws. They would do for our export-market oppportunities what the Jones Act did for our U.S. East Coast markets--deliver them to Canada and others.
>
> Our government must firmly address issues of foreign standards, quotas, tariff and non-tariff barriers designed to discriminate against U.S. producers in favor of domestic or competing foreign suppliers.
>
> At present another, albeit unintentional, barrier to exports is provided by the federal government. That is the abnormal strength of the dollar in relation to foreign currencies, at a time when the currencies of many of our competing and consuming countries have been significantly devalued.

Conclusion

It has been a difficult year for these ports. Their collective experience appears to represent the general port and land transportation industry. All things considered, they have survived the times fairly well and are in sound positions to participate in the economic rebound. Specifically though, there are some intergovernmental concerns.

The Port of Baltimore has undergone great transformation from its earlier days. Originally a railroad port in most regards, it has practically entirely rebuilt, expanded and

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[82]Brenda Burton, "Survival Skills," Tradelines (Seattle, Washington: Port of Seattle, January-February 1983), pp. 12-13.

modernized operations. As part of a state administration, it is a participant in the overall policy programming and economic health of the state. In fact, the literature developed by the port and the state strongly identifies linkage with job creation and money brought in to the economy. Most of the cargo through the Baltimore port area comes from outside the state. It is really a multistate regional port in a dense urban area. Current operations do not seem to be greatly affected by the intergovernmental policy framework. When, not should, export growth pick up again, the port will be in a good position to capture much of that growth and serve it well. It then will be faced with very strong policy issues regarding unit trains, dredging, user fees, labor, deregulation, and a shifting of its role. It will find itself in more intense competition with other ports such as New York, Hampton Roads and particularly New Orleans. As all other ports affected by the downturn in American manufacturing export, primarily shipped by containers and breakbulk, it may find it has an infrastructure that could be more a one-way operation, that is--for import rather than for export.

For the export process the port has now the time and opportunity to prepare for the development of and response to these key issues. With proper handling and consensus building in the surrounding Baltimore community, the facilities should be able to be effectively brought into operation as needed.

The future viability of the combined ports of Hampton Roads resides with the future of coal. Historically, there have been huge swings in the demand for coal as a function of the price and availability of oil. There exists a delicate international balance of suppliers and users, rich and poor, "haves" and "have-nots." A change in current political philosophy could disrupt this balance and with it the overall balance of trade.

Presuming that reasonably stable political and economic forces prevail globally, Hampton Roads has postured itself well for the future. Demand for coking coal and steam coal should remain high and with it the viability of the port. In fact, the trend for the Virginia port tends toward improved economy of operation for the future with a strengthening of its national position.

The Port of New Orleans has facilities on the river and along the Industrial Canal (Inner Harbor Navigation Canal) to Lake Pontchartrain and the Mississippi River-Gulf Outlet. The controlling depths for the river are forty feet and for the IHNC are thirty-six feet. The port is building new container facilities at France Road and Jourdan Road (multipurpose). River

wharves are being upgraded. The present Foreign Trade Zone on the river will be expanded at a new location behind the Jourdan Road Terminal.

At current levels of operation, the port is not severely hampered by transportation intergovernmental laws, policies or procedures. Concern definitely is evident for future growth potential responding to the resurgence in the world economy and demand for the Middle West's output. The temporary flat period will permit more preparation for meeting future trade needs in accordance with domestic transportation institutional requirements at all levels of government.

"The jury is still out" insofar as a complete perspective of regulatory barriers is concerned in Seattle. Judging, however, from the investigation made through the port and available literature, it appears that at least in Seattle, regulatory barriers either do not exist, are not troublesome or are not recognized for what they are.

Examination of port related bottlenecks and barriers yielded a minimum of information. It is felt this points to a minimum of such problems on the one hand and a lack of clarity over the issues on the other. Perceived real problem areas tend to be in port expansion plans and the effects on water quality, as water quality in general is a paramount issue in the Northwest. These would come into play if trade expanded greatly and new facilities had to be constructed in the port, or for supporting hinterland transportation corridors. In either case, then the full spectrum of intergovernmental public policy would be contacted. Because the Pacific Northwest, especially Seattle, has a reputation for effectively linking with the intergovernmental policy framework, history would suggest that a useful model of cooperation might be developed.

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